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ABSTRACT

Since the 1968 Vocational Education Amendments there has been increased emphasis on programs of world of work orientation and exploration for elementary and secondary students. In order to identify the problems facing these programs and the methodological approaches used in their development, this review emphasizes school responsibility in setting up and operating occupational exploration programs for Grades K-12. Although research in occupational education is limited, because the field has been emphasized only recently, considerable related research has been conducted in career development and vocational guidance. Existing programs are concentrated at the junior high school level, although the emphasis is not on the development of elementary school programs, with master plans to coordinate programs at all levels through Grade 12. The implications for teacher and counselor education and the need for a good relationship with industry are discussed, along with problem areas, questions to be resolved, and recommendations for further research and study. Many of the documents included in the bibliography are available through the ERIC system. (BH)

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review and synthesis of information on

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REVIEW AND SYNTHESIS OF INFORMATION ON OCCUPATIONAL EXPLORATION

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PREFACE

This *Review and Synthesis of Information on Occupational Exploration* is one of a series of "state of the art" papers in vocational and technical education and related fields. Legislation and societal concern have given new focus and special emphasis to occupational exploration and prevocational education in grades K–12. Much recent research has also been concerned with this important priority topic. This publication should assist in identifying substantive problems and methodological approaches for researchers and curriculum development specialists as well as providing practitioners with a summary of research findings that have application to educational programs.

This review is intended to be an authoritative analysis of the literature in the field. Those who wish to examine the primary sources of information should utilize the bibliography. Where ERIC document numbers and ERIC Document Reproduction Service (EDRS) prices are cited, the documents are available in microfiche and hard copy forms.

The profession is indebted to Dr. Wesley Budke for his scholarship in the preparation of this report. Recognition is also due Dr. Charles Weaver, state guidance supervisor, Columbus, Ohio; Dr. Gene Bottoms, associate state director, Atlanta, Georgia; and Dr. Robert Campbell, research and development specialist, The Center, for their critical review of the manuscript prior to its final revision and publication. J. David McCracken, information specialist at The Center, coordinated the publication's development.

Members of the profession are invited to suggest specific topics or problems for future reviews.

Robert E. Taylor
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Technical Education

INTRODUCTION

Current social, economic, political, and technological trends disclose the need for deliberate planning and preparation for present-day occupations. There is a critical need for systematic programs of occupational exploration in elementary and secondary schools to allow individuals to gradually and methodically evaluate their interests and abilities against occupational opportunities and requirements.

The purpose of this document is to review and synthesize the most significant research and information available concerning occupational exploration in kindergarten through grade 12 and to serve as a useful reference for educators who will be developing these programs. The primary focus will be on total school responsibility in organizing, implementing, and operating occupational exploration programs for the elementary, junior high, and senior high school as well as comprehensive program efforts for kindergarten through grade 12.

The document base for this paper was the collections of the Educational Resources Information Center (ERIC), The ERIC Clearinghouse on Vocational and Technical Education, the Research Library of the Center for Vocational and Technical Education, and information secured from state directors of vocational education through November 1970. A search was conducted of the documents reported in *Research in Education* (RIE), *Abstracts of Instructional Materials in Vocational and Technical Education* (AIM), *Abstracts of Research and Related Materials in Vocational and Technical Education* (ARM), and *Current Index to Journals in Education* (CIJE). Computer searches of RIE were made using the following descriptors: career planning, career choice, occupational choice (235 citations); vocational interests, occupational aspirations (80 citations); vocational aptitude (14 citations); prevocational education (46 citations); occupational guidance, vocational counseling, occupational information plus group guidance, classroom guidance, group counseling (15 citations); and occupational guidance, vocational counseling, occupational information, career opportunities, employment opportunities (659 citations).

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REVIEW AND SYNTHESIS OF INFORMATION ON OCCUPATIONAL EXPLORATION

TERMINOLOGY

Career education and career development in grades 1-12 are surrounded with semantic variations. A recent "catchword," prevocational education, has been used with increasing frequency since the Vocational Education Act Amendments of 1968. Although the term did not appear in written form, it is associated with the definition of vocational education in Part A of the Act and with Part D, "Exemplary Programs and Projects," which calls for innovative approaches to programs for those students who will end their education at or before completion of high school. Included in these programs are world of work orientation and exploration programs for elementary and secondary students.

Program developers who were dissatisfied with prevocational education as a descriptive term have assigned their own titles to the programs. What may be called provocational education in one institution or area of the country may be known elsewhere as Introduction to Vocations, Career Exploration, Career Orientation, Occupational Exploration, Occupational Orientation, Acquaintance with the World of Work, Orientation to the World of Work, or Exploring the World of Work. The names assigned to these programs cover a wide continuum, and though the descriptions may satisfy local needs, they reduce the clarity of communication between programs. As a general rule, a descriptor such as "acquaintance" usually is associated with the elementary school; "orientation," with the middle school and lower junior high school; and "exploration," with the upper junior high school and senior high school. It must be remembered that this is a generalization and exceptions may be found. Unless mutually agreed upon descriptive terms can be identified to portray the career activities at the various educational levels, it will be extremely difficult to achieve the interaction and exchange of ideas between programs which is so badly needed.

Another factor which discourages the use of prevocational education as a program descriptor is its former context or use prior to the Vocational Education Act Amendments of 1968. It was commonly spelled with a hyphen between "pre" and "vocational" and was construed to mean all education prior to entering a vocation. This included all subjects such as English, mathematics, science, and social studies and was not necessarily related to occupational information or exploration. Problems of this nature come to the forefront when retrieving documents by computer using assigned descriptors.

As more emphasis is being placed upon continuous career development programs from kindergarten through grade 12 it would seem that we need a composite term to describe all the career activities through this continuum. Career development and career education do not appear satisfactory because they carry beyond the grade 12 educational level and "acquaintance" or "orientation" seem too superficial. The writer felt that occupational exploration would most clearly describe the majority of the activities discussed in this document. Occupational exploration broadly defined will generally describe organized educational efforts directed at exposing students to a wide spectrum of career occupations through discussion, films, resource persons, and field trips as well as exploration of their interests and abilities through participation in manipulative skills and simulations in a laboratory or work setting. The writer is aware that this term may not adequately describe in-depth development of employability skills, and job entry, adjustment and progression experiences and activities.

HISTORY AND DEVELOPMENT

The comprehensive occupational exploration program, kindergarten through grade 12, which was identified in the previous section, was begun in vocational guidance and relies heavily on this process for its success. The birth of vocational guidance is widely attributed to Frank Parsons' posthumous publication, *Choosing A Vocation,* in 1909. Although Parsons is given considerable credit for shaping the vocational guidance movement, numerous vocational exploration and counseling efforts had occurred throughout the United States prior to his publication.

Brewer (1942) made an extensive study of the history of vocational guidance and served as the historical reference through 1942. Borow (1964) relied heavily on Brewer's work in developing a chronology of notable events in the history of vocational guidance dating from 1850 to 1963.

Johnson and Johnson (1968) looked at the major influences in the birth, growth, and development of the vocational guidance movement. These influences were categorized as the development of technology and a modern industrial society, faith in democracy and education, participation of the federal government in vocational education and guidance, and psychological testing and research in vocational guidance.

Vocational guidance was born out of the problems created by rapidly expanding industrial urban centers. Urbanization and the division of labor separated the home and the job, creating an information void relating to jobs and employment opportunities. Parsons proposed a simple approach in which counselors would help individuals learn more about themselves and about the characteristics and requirements of various occupations and assist them in making reasonable choices based on this information. However, the earliest workers in vocational guidance were social workers concerned only with child labor practices, and it was not until the late 1920's and early 1930's that educators assumed leadership.

As the western frontier was pushed back and lessened economic opportunity through expansion, education became the hope for increasing the self-development of increasing numbers of people. The first half of the 20th century saw elementary and secondary education become a right and a necessity to national welfare. Vocational preparation curriculums were incorporated into the high schools to provide the necessary training to fill the variety of jobs created by industry. Diverse curriculums, the wide range in abilities and goals of students, and rapidly expanding occupational opportunities made the development of guidance functions in the schools a necessity.

Leadership in the vocational guidance movement, which had been in the hands of the schools in the 1920's, was assumed by the federal government in the 1930's as a part of the national response to the economic depression. The major vocational guidance effort during the depression years was on placement. World War II switched the focus to recruitment and allocation of manpower, while postwar emphasis centered on demobilization and counseling of veterans returning to civilian life.

The mental hygiene and progressive education movements before World War II and the client-centered approach to counseling in the 1940's and 1950's encouraged a broader concept of guidance. These influences focused attention on the individual rather than the content of the school program and on the whole individual rather than on his educational and vocational problems. A new emphasis on vocational counseling emerged in the 1950's as guidance was thought of as an instrument of national manpower policy in keeping up in a world competing for technical and military supremacy. More recently, national attention to problems of poverty, chronic unemployment, and racial discrimination have led to a rediscovery of the importance to general welfare of wise development and utilization of human manpower resources.

Appraisal of the individual has always been an important part of vocational counseling. Testing developed independently of the vocational guidance movement, but had a very pronounced influence upon it. Tests developed during World War I and shortly thereafter were used in manpower selection by industrial and military psychologists and were adapted to vocational and educational counseling in schools and colleges. The evolvement of the client-centered approach to counseling advanced by Carl Rogers did much to deemphasize the role of tests and suppress their excessive use in school and college guidance. Since World War II, vocational guidance research has centered around theories of career development, interest inventories, and a longitudinal series of career decisions.

Recent federal legislation such as the Vocational Education Act of 1963, the Elementary and Secondary Education Act of 1965 (ESEA), the Economic Opportunity Act of 1964, and the Vocational Education Act Amendments of 1968 have expressed concern about the career development and guidance of the nation's young people. There is a strengthening trend toward viewing vocational guidance as a continuous exploratory and skill development process beginning in kindergarten and continuing through high school. Numerous new programs are developing under the combined leadership of vocational guidance personnel and vocational educators, designed as interdisciplinary approaches to providing occupational exploration opportunities at all levels of the educational process. Several state departments of vocational education have taken advantage of the "Exemplary Program and Projects" section of the 1968 Vocational Education Act Amendments to develop model occupational exploration programs.

LEGISLATION

The Smith-Hughes Act of 1917 was the first major federal legislation to provide government assistance to subcollege industrial, agricultural, and home economics education. This act did not support vocational guidance directly, but like subsequent vocational legislation (George-Reed Act and George-Ellzey Act) it did have great implications in terms of the value and necessity of guidance services. In 1936, the George-Deen Act increased these funds (Borow, 1964).

Vocational guidance received its first direct federal financial support in 1938 when the Commissioner of Eductation interpreted the vocational education legislation to include guidance, thus authorizing a portion of the funds appropriated under these acts to be allocated to guidance services.

The use of federally appropriated funds for vocational guidance was liberalized in 1946 with the passage of the George-Barden Act. This legislation authorized the use of federal funds for the support of local vocational guidance programs. However, only after an adequate state program had been developed could funds be used locally. It was expected that funds would enable states to:

1. Provide for supervision of vocational guidance.
2. Train vocational counselors.
3. Maintain a program of vocational counseling for secondary and adult level.
4. Produce and publish occupational information for vocational counselors and teachers (U.S. Panel of Consultants on Vocational Education, 1963).

Johnson and Johnson (1968), in reviewing the history of vocational guidance, reported that in 1958, the "Sputnik Era," guidance was thought of as an instrument of national manpower policy in keeping up in a world competing for technical and military supremacy. This was reflected in the National Defense Education Act (NDEA) passed by Congress in 1958. Under Title V, the Act provided funds for testing and guidance programs in the public secondary schools to aid in the identification and encouragement of able students, and further provided funds for Counseling and Guidance Training Institutes on contract with colleges and universities for the purpose of improving the qualifications of secondary school counselors and of teachers preparing for counselorship. By action of Congress in amending the Act in 1961, federal support for school testing and guidance programs and for the training institutes was extended through 1965.

The U.S. Department of Labor's annual *Manpower Report of the President* (1970) provided a comprehensive description of recent manpower legislation and its relationship to vocational guidance and occupational exploration. The Manpower Development and Training Act of 1962 (MDTA) provided funds for expanded institutional and on-the-job vocational training for the unemployed and underemployed and called for a broad program of research in the field of manpower.

The Vocational Education Act of 1963 opened the doors to a broad vocational education program attuned to both community needs for trained workers and students' capabilities and interests. This act permitted the schools to use federal funds to prepare individuals for gainful employment in all occupations except those requiring four or more years of college education.

The Economic Opportunity Act of 1964 (EOA) and the Elementary and Secondary Education Act of 1965 (ESEA) stressed the education and training of the disadvantaged and handicapped, placing a large portion of the responsibility on the vocational guidance aspect of the program.

Occupational exploration was referred to legislatively for the first time in the 1968 Vocational Education Act Amendments. The reference is found in Part A of the Act, the definition of vocational education, and in Part D entitled "Exemplary Programs and Projects" which calls for "Programs or projects designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupation." This statement calls for more than the guidance activities of the past. Provision of the magnitude and quality of program requested will require a combined effort of the entire school system and its community setting. Examples of these innovative approaches will be examined in the body of this document.

THEORIES OF CAREER DEVELOPMENT

Prior to discussing strategies and programs for occupational exploration, it is necessary to acquire a sound understanding of the foundation upon which these programs are built. Many theories of how occupational choice occurs have been advanced. Only a representative number of them will be referred to in this paper.

Osipow (1968) examined theories of career development in terms of approaches to career counseling. Four approaches were identified: trait-factor theories, sociological theories, personality theories, and developmental theories.

Trait-Factor Theories

The trait-factor theoretical approach is the oldest system of counseling. It is best portrayed by Parsons (1909) and views occupational choice as a point-in-time act consisting of matching the characteristics of the individual with occupational opportunities. The individual must have a clear understanding of himself, his aptitudes, abilities, interests, ambitions, resources, and limitations. There must also be knowledge of the requirements, conditions for success, and the prospects in different occupations. The relationship between these two groups of facts determines the career choice. Satisfaction with the choice depends primarily on the correctness of the assessment of the characteristics of the individual and the occupational opportunities.

Sociological Theories

The sociological approach to career development has as its central point the notion that circumstances beyond the control of the individual contribute significantly to the career choices he makes, and the principal task confronting the youth is the development of techniques to cope effectively with his environment (Osipow, 1968).

Caplow (1954) reviewed evidence from sociological research on occupational choice and concluded that errors and accidents play a greater role in occupational choice than the subject often realizes. He is often placed in a particular situation from accident of birth rather than willful desire. Occupational choices are made when the student is still remote from the world of work—in the school room, fulfilling school requirements, under the pressure of the curriculum, and far removed from the realities of the actual job situation.

Blau, Gustad, Jessor, Parnes, and Wilcock (1956) proposed a sociological theory of occupational choice where there is no single time at which young people decide upon one out of all possible careers, but there are many crossroads at which they must make decisive turns which narrow the range of future alternatives. It is a process of compromise between preferences for and expectations of being able to get into various occupations. This compromise is modified continually, since the experiences of individuals in the course of searching for suitable careers affect their expectations and often their preference.

Hollingshead (1949) studied job patterns related to social classes. He believed that the adolescents' ideas of desirable jobs are a reflection of their experience or exposure in their particular social class.

Miller and Form (1951) were concerned with work-centered sociological classification of life stages. These stages were the Preparatory Work Period, The Initial Work Period, the Trial Work Period, the Stable Work Period, and the Retirement Period.

Personality Theories

The personality approach to the study of career development shows the individual, represented by the personality, being satisfied through the need satisfying aspects of occupations. Key (1970) viewed vocational selection as the development of a need satisfaction pattern through a series of choices. The individual's perception of his needs and of the need satisfaction ability of occupations determines the adequacy of the choice.

Holland (1966) advanced a theory that our culture has six types of people who represent the characteristic patterns of personal development. They are: Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic. He maintains that the process of occupational choice is finding people who are like oneself. Every person, other things being equal, is impelled toward those groups of persons whose members have personal orientation similar to his own.

Forer (1953) found the explanation of occupational choice largely in the personality and emotional needs of the individual. It is an unreasonable, irrational, impulsive personal process experienced by individuals to satisfy their basic needs.

Developmental Theories

The developmental approach sees occupational choice as the process of self-concept development through compromise choices and adjustments. Osipow (1968) summarized the theory as follows:

1. Individuals develop more clearly defined self-concepts as they grow older, although these vary to conform with the changes in one's view of reality as correlated with aging.
2. People develop images of the occupational world which they compare with their self-image in trying to make career decisions.
3. The adequacy of the eventual career decision is based on the similarity between an individual's self-concept and the vocational concept of the career he eventually chooses.

Ginzberg, Ginsburg, Axelrad, and Herma (1951) visualized occupational choice as a process of self-concept development through compromise choices and adjustments. This process of occupational decision-making can be divided into three distinct periods: 1) the period during which the individual makes what can be described as a fantasy choice, 2) the period during which he is making a tentative choice, and 3) the period when he makes a realistic choice. The first stage coincides in general with the latency period, between 6 and 11, although residual elements of fantasy choices frequently carry over into the preadolescent years. The second period coincides by and large with early and late adolescence; and with few exceptions, realistic choices are made in early adulthood.

Super (1957) was the first to suggest the terms vocational development and vocational maturity. These descriptors generally have replaced vocational choice and vocational adjustment in the psychological field. The diverse elements of a vocational development theory were organized by Super (1965) into a summary statement utilizing 11 propositions:

1. Vocational development is an ongoing, continuous, and generally irreversible process.
2. Vocational development is an orderly, patterned process and thus predictable.
3. Vocational development is a dynamic process of compromise or synthesis.
4. Self-concepts begin to form prior to adolescence, become clearer in adolescence, and are translated into occupational terms in adolescence.
5. Reality factors play an increasingly important part in occupational choice with increasing age, from early adolescence to adulthood.
6. Identification with a parent or parent substitute is related to the development of adequate roles, their consistent and harmonious interrelationship, and their interpretation in terms of vocational plans and eventualities.
7. The direction and rate of the vertical movement of an individual from one occupational level to another is related to his intelligence, parental socioeconomic level, status needs, values, interests, skills in interpersonal relationships, and the supply and demand conditions in the economy.
8. The occupational field which the individual enters is related to his interests and values, the identifications he makes with parental or substitute role models; the community resources he uses; the level and quality of his educational background; and the occupational structure, trends, and attitudes of his community.
9. Although each occupation requires a characteristic pattern of abilities, interests, and personality traits, the tolerances are wide enough to allow both some variety of individuals in each occupation and some diverstiy of occupations for each individual.
10. Work satisfactions depend upon the extent to which the individ-

ual can find adequate outlets in his job for his abilities, interests, values, and personality traits.

11. The degree of satisfaction the individual attains from his work is related to the degree to which he has been able to implement his self-concept in his work.

Tiedeman and O'Hara (1963) investigated the clarification, crystallization, and stabilization of self-concepts. Elaborating on the work of Super and focusing also on vocational self-concepts, they conceived vocational development as the choosing of successive positions, each of which is related to previous and subsequent choices, which form a means-end chain. The focus is on the major positions a person occupies in the course of a lifetime and the role expectations that go with the position (Hansen, 1970).

The developmental or self-concept theory of vocational development has received the greatest amount of attention in recent years. Super and Overstreet, *et al.* (1960) conducted a longitudinal career pattern study of ninth grade boys which focused on sequential patterns and vocational development tasks at different life stages.

Bailey (1967) identified 40 concepts related to career-development understanding. These concepts may be useful in forming a basis for direct instruction to adolescents, in structuring study leading toward self and environmental-sensitivity, and in forming an external criterion useful in assessing the degree to which groups move toward vocational sophistication.

Gribbons and Lohnes (1966) undertook a longitudinal study of 111 boys and girls to determine whether their career patterns follow a sequence of developmental stages. This study provides educators with a basis for understanding vocational readiness and vocational maturity. Their development and use of the "Readiness for Vocational Planning" (RVP) scale provides some support for career planning in the junior high school.

Composite Theories

Key (1970) developed a unified model of career development utilizing the trait-factor, sociological, personality, and developmental approaches. The theories have elements and approaches in common, each considering the interaction of attributes of the individual and occupational influences.

Hoppock (1967) developed a composite theory of occupational choice and offered 10 speculations as to why people behave as they do when trying to reach a vocational decision.

1. Occupations are chosen to meet needs.
2. The occupation that we choose is one that we believe will best meet the needs that most concern us.
3. Needs may be intellectually perceived, or they may be only vaguely felt as attractions which draw us in certain directions.
4. Occupational choice begins when we first become aware that an occupation can help to meet our needs.

5. Occupational choice improves as we become better able to anticipate how well a prospective occupation will meet our needs.
6. Information about ourselves affects occupational choice by helping us to recognize what we want, and by helping us to anticipate whether or not we will be successful in collecting what the contemplated occupation offers us.
7. Information about occupations affects occupational choice by helping us to discover the occupations that may meet our needs, and by helping us to anticipate how well satisfied we may hope to be in one occupation as compared to another.
8. Job satisfaction depends upon the extent to which the job that we hold meets the needs that we feel it should meet.
9. Satisfaction can result from a job which meets our needs today, or from a job which promises to meet them in the future.
10. Occupational choice is always subject to change when we believe that a change will better meet our needs.

This has been only a cursory review of pertinent career development theories. Readers who desire to probe in greater depth are invited to explore the indicated references. Several scholars have examined the various theories in considerable detail. Osipow (1968) examined seven theories of career development and contrasted them regarding strengths and weaknesses. Hansen (1970) reviewed pertinent theory and research from which principles of career development are derived. Borow (1964), as editor of *Man in A World of Work,* combined contributions by outstanding scholars in the field of vocational guidance into a series of disciplinary probes into the nature and meaning of the human work experience and its relationship to theory, research, and professional practices of vocational guidance. Zytowski (1968) amassed a comprehensive group of readings in theory and research on vocational behavior.

Isaacson (1966) emphasized that vocational choice is a long-range, gradual process essentially involving the acquisition of self-understanding and knowledge of the world of work. Recognition that the process requires time, study, and compromise is helpful in overcoming the impression that this is an event, rather than a process which can be condensed into an afternoon with a counselor or interested teacher.

Summary and Conclusions

A large quantity of literature relating to vocational development theories was reviewed; however, selecting a representative sample of existing works did pose somewhat of a problem. Numerous studies concerning vocational development theories have been excluded, as the purpose of this section was only to help demonstrate the rationale for and basis upon which occupational exploration programs are built.

Many attempts at explaining vocational development have been advanced. Most of these can be categorized as trait-factor theories, sociological theories, personality theories, or developmental theories. The trait-factor approach has long been the process by which vocational choices were made in our schools. It has been common practice to determine an individual's characteristics based upon a series of tests and then match him with occupational opportunities, all of which occurs within a period of a few minutes or hours.

Recent writings and research point to the developmental or self-concept approach as currently being the most widely accepted vocational development process; however, some feel that a composite approach is more appropriate. A majority of the occupational exploration programs have accepted the developmental concept as a central theme because of its logical evolvement and its ability to be incorporated into a comprehensive educational program.

Although there was an abundance of information concerning vocational development theories, there was an apparent shortage of materials offering strategies for implementing these theories into operational programs. This void is causing considerable frustration to practitioners who are attempting to design and implement occupational exploration programs.

RATIONALE FOR OCCUPATIONAL EXPLORATION

The world of work has undergone more than a superficial modification. Sredl (1970) observed that where once elementary school children could learn about the world of work by watching the village craftsman, the village craftsman no longer practices as openly as he once did and in many instances does not even exist. Where management and production practices affecting material goods and services were once relatively simple, these practices are now complex and involve the understanding of more than mechanical operations.

Borow (1966) pointed out that children acquire value systems which influence their choice of occupations. Junior high school students have limited and questionable information about occupations and are not ready for counseling about specific vocational choices. Persons classified as disadvantaged lack work models and are in special need of assistance in understanding the world of work. Slowly but steadily, the youth of America are becoming estranged from occupational life, and are developing biases against work fields.

Our present system of vocational education and preparation for the world of work has been attacked. DeVore (1970) maintained that youngsters are being asked to make an occupational commitment too early or to begin occupational training too soon. Vocational and occupational educators have concentrated too much on staying in business and on the operational side of the question rather than on directing energies toward preparing for vocational education.

Vocational educators began emphasizing the need and importance of occupational exploration in the elementary and junior high school in 1963 when the U.S. Panel of Consultants on Vocational Education delivered their report. The Panel identified a need for more vocational guidance and counseling services and suggested that the guidance function become more of a developmental process beginning down in the grades instead of a discrete act commencing at some arbitrary chronological age or school year.

The U.S. National Commission on Technology, Automation, and Economic Progress (1966) expressed the belief that vocational education should be a lifelong process to provide individual fulfillment and mastery of the environment. Continual learning and updating is necessary in a dynamic society.

Venn (1967), in a speech delivered at an annual conference on Industrial Education, stated that educational programs must be developed which give all persons the opportunity to serve a useful purpose. Vocational education must become a part of all levels of education to assist individuals in the transition from school to work; educators must help students make this transition; and schools and colleges must make learning how to work a part of their program.

The Committee on Labor and Public Welfare (1968) in their "Bridge

Report" stated that an adequate system of vocational education should be developed, capable of providing training which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and abilities. This program should possess the following characteristics:

1. Occupational preparation should begin in the elementary schools with a realistic picture of the world of work. Its fundamental purposes should be to familiarize the student with his world and to provide him with the intellectual tools and rational habits of thought to play a satisfying role.
2. In junior high school, economic orientation and occupational preparation should reach a more sophisticated stage with study by all students of the economic and industrial system by which goods and services are produced and distributed. The objective should be exposure to the full range of occupational choices which will be available at a later point and full knowledge of the relative advantages and requirements of each.
3. Occupational preparation should become more specific in the high school, though preparation should not be limited to a specific occupation. Given the uncertainties of a changing economy and the limited experiences upon which vocational choices must be made, instruction should not be overly narrow but should be built around significant families of occupations or industries which promise expanding opportunities.
4. Occupational education should be based on a spiral curriculum which treats concepts at higher and higher levels of complexity as the student moves through the program. Vocational preparation should be used to make general education concrete and understandable; general education should point up the vocational implications of all education.

In response to the "Bridge Report," the Vocational Education Act Amendments of 1968 made provision for career exploration in Part A of the Act, the definition of vocational education, and in Part D which provides for "Programs or projects designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupation."

The National Advisory Council on Vocational Education (1969) emphasized the importance of this section of the Act when they said: "Exploration of the world of work should begin early. Respect for work and pride of workmanship are essential in a trillion-dollar economy. Direct job-related instruction, starting in the upper elementary grades, should be made available for some pupils."

Johnson (1969), past president of the American Vocational Association, expressed active involvement by vocational education in prevocational education when he wrote "For the first time in the history of vocational education, we will become extensively involved in the program of occupation orientation at elementary and junior high school levels. We must find ways to work cooperatively with the elementary teacher, guidance counselor, and other school personnel as we reach out to serve more students at an earlier age—to give them work experiences or to provide other experiences from which they can acquire occupational insights."

The necessity for research and development in this area is highlighted by Kell and Hyder (1970) in a Center for Vocational and Technical Education management study. This work revealed that 27 percent of the participants in past Center activities believed establishment of a K–12 career development curriculum to be one of the highest priorities for vocational education. The majority of these participants were state level personnel.

Herr (1969) suggested a realistic strategy for providing comprehensive occupational exploration programs. He believed that an entire system of education can be unified around a career development theme. More attention must be concentrated at the elementary school level, in terms of attitude development, decision-making, and self-awareness as well as awareness of and knowledge about the broad characteristics and expectations of work. Junior high school students need exploratory experiences. It is a time when student responsibilities, through participation in planning, can be related to the consequences of the decisions made. It is also a time when, because of the unevenness of development, there are wide ranges of maturity within the population and within individuals. The continuation of career development at the senior high school level must, as at other levels, be predicated upon individual needs, readiness, and motivations. In one sense, the principal concerns at this level are the intensity of the planning, individual readiness, and goal-directedness which characterizes the individual to be served.

Summary and Conclusions

The growth of technology and the ever increasing complexity of our society progressively have removed young people from contact with the world of work, until most of them know little of occupational characteristics and requirements. This has signaled the necessity for some form of occupational exploration in the educational system.

The urgent need for occupational exploration has been recognized by vocational guidance personnel, vocational educators, and legislators and is apparent in actions taken by these groups.

There is need to begin thinking of occupational education as a total process beginning in the elementary grades, carrying through high school, and continuing on into adult life. At present, many occupational exploration programs are thought of as vocational, general education, or vocational guidance in nature, when in reality, the only effective program will be one in which all education facets cooperate and work toward a common goal. To achieve this end it may be necessary to have career development specialists to provide overall leadership to the program.

VOCATIONAL GUIDANCE

Occupational exploration must be a joint effort by all members of the school team—administrators, teachers, and counselors. Guidance personnel have long viewed career information as their responsibility. However, the recent emphasis on occupational exploration as a continuous and interdisciplinary process is requiring close cooperation and coordination between all teachers and guidance personnel.

Isaacson (1966) emphasized that both the teacher and the counselor are important members of the guidance team in every school. Each makes a unique contribution to the career planning process that supplements the work of the other. Neither can replace the other effectively, nor can either do both aspects of the task that needs to be done if students are to be given the maximum assistance in planning for their future.

What is the role of guidance in a career development program? Hoyt (1969) identified the role as: 1) helping the student to see himself as worthy, 2) helping students experience success, 3) helping students to find ways that school can make sense to them, 4) helping students consider and make decisions regarding the values of a work oriented society, 5) helping students develop an understanding of their own talents, and 6) helping students make choices from a wide range of alternatives. These guidance objectives can be accomplished through the help and involvement of teachers, utilization of community resources, and availability of a more relevant curricula.

A close working relationship does not exist between some counselors and vocational educators. Hoyt (1970) referred to several negative perceptions or "image gaps" held by some counselors toward vocational education. These are:

1. Vocational educators are trying to turn out skilled technicians and craftsmen at the secondary-school level.
2. Vocational education has failed to offer a sufficient variety of choices to students.
3. Vocational educators are really looking for the academically talented student rather than providing for students with low levels of academic aptitude.
4. Vocational education exists as something separate and apart from "regular" school.

Sometimes these perceptions have been justified, and at other times they have not. In either case, these negative perceptions must be resolved if vocational education and vocational guidance are to accomplish their goals.

The vocational guidance field is aware of shortcomings which may exist in programs and personnel. Barry and Wolf (1962) explored some of the myths, actualities, and implications connected with vocational guidance. They maintained that vocational guidance has not grown and adjusted with the change in education and therefore is not adequately fulfilling its objectives.

Rosen (1969) cited a Chicago and St. Louis study in which the school officials interviewed felt that counselors were poorly qualified, know little about the skilled occupations, and placed too much emphasis on college careers. The Committee on Labor and Public Welfare (1968) or The Advisory Council on Vocational Education stated that "there is too much guidance of a clerical type, on information giving and receiving process with little concern or knowledge of the demands of occupations and the world of work." Campbell, *et al.* (1968) in a national survey of secondary education vocational guidance found that counselor education should seriously consider the need for training "catalyst-innovators" to direct a pupil personnel team. Counselor training should also consider including internship options appropriate for such different guidance settings as vocational education, junior high schools, industry, and elementary schools. This does not imply that each counselor would have to take all the internship options, but could elect those which are most appropriate for his professional goals.

Hoyt (1970) contended that school counselors are ill-equipped at the present to provide the guidance services envisioned in the 1968 Vocational Education Act Amendments. This is due to: 1) insufficient numbers of guidance personnel to do all they are called upon to do, and 2) insufficient background. As a corrective measure, Hoyt recommended a closer working relationship between vocational educators and guidance personnel both at the preservice and operational level. A new type of "guidance-teacher" will need to be prepared, capable of group instruction, and prepared in vocational education and guidance. Two-year preparatory programs also were suggested for guidance technicians trained as outreach specialists, data gatherers, testing specialists, and follow-up personnel.

Carey (1970) offered another approach to alleviate the shortage of competent vocational guidance personnel. A differentiated staffing pattern was suggested to provide the range of services requested of counselors. Four categories of personnel were identified which seemed to have the greatest potential for delivering guidance services. They were: 1) paraprofessional, 2) guidance teacher, 3) school counselor, and 4) specialist/coordinator. The apparent advantages of this system are more guidance services, more efficient utilization of personnel, and a career ladder for guidance personnel which would permit persons with a variety of backgrounds to enter at different points.

Vocational guidance has made several national efforts through seminars and conferences to improve programs and increase their effectiveness. The following reports and proceedings are typical of their efforts.

Campbell (1966) reported on a national interdisciplinary seminar on guidance in vocational education. Nationally recognized leaders from several disciplines were invited to present papers and develop guidelines for initiating and improving vocational guidance programs. The six overall program goals were: 1) to stimulate interdisciplinary research and interest; 2) to evaluate the status of the field and to identify specific problem areas; 3) to assist educators and administrators in establishing policy and program guidelines; 4) to coordinate and exchange information among the relevant disciplines; 5) to project long-range needs and goals; and 6) to reduce the time lag between research, theory, and practice. Several conclusions were reached as a result of this seminar, some of which were:

1. The guidance program should be responsible for a myriad of services ranging from the traditional vocational testing to extensive follow-up guidance services to high school alumni.
2. There is a lack of clarity on how the goals should be achieved.
3. There is a severe shortage of guidance manpower to achieve the kind of programs which were recommended.
4. The guidance counselors should consider seriously a team approach to vocational counseling.

Campbell, *et al.* (1966) discussed the results of a research exchange conference whose objectives were: 1) to review experiences, problems and insights, developed by the individual participants through research and operational use of new technologies; 2) to review the relation of these technologies to vocational education, vocational counseling, and guidance; and 3) to arrange for continued communication among participants as they use systems analysis and technology in vocational guidance research and practice. Three project areas were discussed: 1) projects devoted to the study of careers; 2) projects for the development and presentation of material for the enhancement of career decisions, but not involving the computer; and 3) projects devoted to the development of material for computer assisted vocational guidance.

Campbell, *et al.* (1971) reported on the development of a procedural model for improving vocational guidance programs in senior high schools. The model, based on a systems approach, 1) emphasizes student behavioral objectives, 2) gives alternative methods for accomplishing these objectives, 3) provides program evaluation strategies, 4) incorporates guidelines for program change adjustments, and 5) can be operationally demonstrated in pilot locations and subsequently replicated in other locations. The model consists of 10 procedural phases, each phase reflecting an aspect of the systems approach (i.e., defining student behavioral objectives, generating vocational guidance methods, and implementing and evaluating the program). It is designed for flexible use at many levels such as the state guidance system, the local school system, and/or the county or area school system. The basic model is not restricted to vocational guidance and has utility for other aspects of the educational system.

Gysbers (1967) presented the proceedings of a national seminar designed to improve guidance services through improvement of state supervisory services.

Individual states also were making concerted efforts to upgrade guidance personnel and programs. Typical of these was Ohio, where Weaver (1968) reported that steps had been taken to provide continual updating of the vocational information held by junior high school counselors. Workshops and summer guidance seminars are held at approved Ohio counselor-education institutions, with additional advanced workshops being held for those counselors who already have attended to at least one seminar.

Summary and Conclusions

Vocational guidance has long considered the provision of occupational information as its responsibility and is sometimes sensitive to other educational agencies providing this service. However, recently suggested programs of occupational exploration have incorporated integral working relationships by all members of the educational team. Much lip service has been paid to this type of relationship, but a survey of literature provides little direction on actual implementation. Research is available on what guidance personnel might do or what vocational educators might do in the way of occupational exploration, but little light is shed on the mechanics of the working relationship between guidance personnel and teachers.

Recent vocational guidance operational techniques such as the Campbell, *et al.* (1971) model should make substantial contributions to the career development of youth. However, the crux of the problem seems to be that existing counselor education programs do not give adequate attention to the vocational aspects of guidance. Until fundamental changes are made in the counselor preparation program their effectiveness will remain questionable.

OCCUPATIONAL EXPLORATION IN THE ELEMENTARY SCHOOL

Occupational exploration at the elementary school level is generally an interdisciplinary program informing children in an organized manner about the world of work. It is a process by which subject matter may be made more meaningful to students by serving as a framework for instruction.

Objectives vary from program to program, but Thompson (1969) proposed specific objectives for elementary school occupational exploration which are quite typical. The objectives are: 1) to help the child appreciate all kinds of work in our society, 2) to develop the concept of flexibility in the work role, 3) to provide a wide base of experience regarding occupations rather than to place emphasis upon early decision-making, and 4) to stress the importance of effective use of leisure time.

Thompson (1969) also felt that the elementary school counselor, with his specific training and background, can be a key person in the implementation of career development programs. The counselor could act as a coordinator for the program and assist teachers and administrators in providing career development activities for elementary school pupils. With the help of teachers, administrators, and special consultants the counselor might develop a guide in career development to be used by elementary school teachers in conjunction with classroom activities.

Sredl (1970) saw the Vocational Education Act Amendments of 1968 as providing elementary educators with an opportunity to develop entirely new programs focusing on occupational orientation and exploration. These Amendments appear to provide the financial backing necessary to devote personnel time to elementary school curriculum development.

The Florida legislature has mandated the inclusion of world of work instruction in grades kindergarten through 6 beginning with the 1971–72 school year. Occupational orientation and exploration also were included in the state's definition of vocational education, making these programs eligible for state vocational education funding support.

Ohio has an annual elementary school guidance conference (Warner, 1968) where developmental guidance is discussed and the major responsibilities of elementary guidance departments are identified.

Research and development in the area of elementary vocational development is only beginning to gather momentum. Creason and Schilson (1970) investigated the nature of vocational preferences of sixth grade children in a selected rural-industrial area. As a result of the study findings, the researchers recommended that elementary teachers and counselors should have the responsibility for providing appropriate occupational exploratory experiences; individuals should be encouraged to assume as much responsibility as possible for their own realistic assessment and self-guidance in making wise occupational decisions; and it revealed to teachers and counselors the importance of providing occupational information to elementary school children.

Wernick (1970) reported the development of a research project whose primary objective was to develop a model program for exploring the world of work. Visibility was a major criterion for all project activities. Children, teachers, and project staff would focus upon performance criteria to portray planning, implementation, and evaluation in overt behavioral forms. Behavioral evidence gathered from authentic teaching situations were collected, sorted, and then transformed into display materials for exhibit purposes, or rearranged for use in sound/slide, film, or brochure presentations. The production of dissemination materials and leadership training of change-agents were also important dimensions of the model program project.

Elementary School Programs

The Dayton, Ohio, PACE Project (Preparing, Aspiring, Career Exploration) utilized a plan for assembling, using, and testing occupational and vocational materials for the elementary grades (Goff, *et al.*, 1967). A variety of activities and materials were tried and evaluated. Together, the counselor, teacher, and students compiled a vocational and occupational transparency book along with a scrapbook of ideas relating to interests, abilities, personality, and job qualification. Significant findings of the project were:

1. The students assimilated vocational and occupational information.
2. Older elementary students exhibited greater vocational awareness.
3. Changes in level of aspiration as a function of learning potential were not differentiated between the experimental and control group.
4. The Dictionary of Occupational Titles was used successfully by the counselor and older elementary students.
5. Parents and teachers were enthusiastic about the program.

New Jersey's "Technology for Children" project (1969) assisted classroom teachers in developing an awareness of the importance of the technological world in which we live. The teachers (K–6) were prepared in this new method of instruction through institutes and workshops. They were provided with a philosophical base and received basic instruction in several technologies, including the use of tools, equipment, and materials. The ultimate goal of the program was: 1) to enhance the learning process at the elementary school level, 2) to enlarge the child's understanding of vocational choice, and 3) to develop his economic competence in a changing world of work through a systematic program of occupational education in grades K–12. To accomplish this goal, a variety of activities and experiences were developed for use in the elementary curriculum. Supplemental reading materials about the world of work were available for class use; curriculum episodes where mathematics, science, social studies, and language were related to the technological environment were developed; and field trips were taken to observe people working in various occupations. An industrial arts teacher worked with the regular classroom teacher in providing experience in shop skills.

Philadelphia's "Room to Grow" project (Faust *et al.,* 1968) consisted of a series of 25 weekly guidance sessions. These sessions related to the world of work, the process of setting goals and making decisions, and similarities between school and employment to help economically and socially handicapped children compensate for possible inadequacy in background. The program usually was offered in the fifth grade and included discussion groups and visits from representatives of a variety of occupations who talked freely and informally about their work and the process by which they arrived at their present stage. Outcomes sought in the program were the strengthening of aspirations, understanding of decision-making, and introduction to the world of work as a world of people engaged in activities they enjoy.

DiMinico (1969) developed a program of career exploration for elementary school children which was being tested at the Ellensburg, Washington, public schools. The program was designed to present occupational information to children in grades 4 through 6. Essentially, it consisted of programed instruction which used a multimedia approach to present content based on precisely defined performance criteria allowing each pupil to work at his own pace. Instructional content of the system was divided into five categories or job families: White Collar, Manual, Service, Farm, and Armed Forces.

The Los Angeles elementary schools (Wolfson, 1970) agricultural education program was concerned with educating boys and girls to live in a world which is both agricultural and industrial. The program consisted of three broad areas: 1) the school program, 2) the Agricultural-Science Center, and 3) the mobile units. Agricultural and conservation-environmental education programs were implemented through activities carried on at the Agricultural-Science Centers.

WETV Channel 30, Atlanta, Georgia, provided a 12-program televised series with supplementary material for sixth grade pupils and above. The purpose of the series was: 1) to provide accurate occupational information, 2) to demonstrate the role of work in the lives of people, 3) to help pupils develop respect for all levels of work, 4) to motivate pupils to stay in school and make realistic educational choices, and 5) to emphasize the significance of attitudes and good work habits for career development.

Hansen (1970) identified and briefly described four elementary school programs. They are: 1) "The World of Work: Increasing the Vocational Awareness of Fifth and Sixth Grade Pupils"—New Jersey; 2) "Vocational Guidance Units for Elementary School"—Iowa; 3) "Room to Grow" project—Philadelphia; and 4) "Project PACE"—Dayton, Ohio.

Curriculum Materials and Vocational Information

Several persons and departments have developed curriculum materials and generated bibliographies related to elementary children's association with the world of work. The Abington School District of Pennsylvania (1968) developed curriculum materials for use in the vocational guidance of students in grades 5, 6, and 7. These materials are based on several vocational theories and are designed to show students the processes through which career decisions may be made. Jones (1968) generally discussed occupational information in the elementary school, provided a sample questionnaire which may be used in obtaining information about services and industries in the school community, and offered a suggestion sheet to be supplied to speakers presenting occupational information. An annotated bibliography of relevant books also is included.

The New Mexico Department of Public Instruction (1968) published a bibliography of the title, author, publisher, and grade level of 49 books selected for the purpose of providing vocational information to school children in kindergarten through grade 8. Miller and Blankenbaker (1970) organized an annotated bibliography of publications and reports of research concerning the interpretation of the world of work to elementary children. The contents are classified as rationale, experimental research, pilot and developmental projects, and other.

Summary and Conclusions

The literature exposed few elementary world of work programs. Those programs that were identified were usually under the direction of the guidance counselor and experimental in design. The literature seemed to point toward the importance of an interdisciplinary approach which provides a framework for the entire elementary educational program. These occupational exploration programs must rely heavily on the working relationship between the guidance personnel and the teachers if they are to attain success; however, as yet elementary guidance is still not fully developed or widely implemented.

Some of the elementary world-of-work programs were merely scaled-down versions of those offered in the junior high school. There was some question as to whether elementary occupational exploration programs have the same objectives as junior high school programs, or in fact, what is the purpose of elementary world-of-work programs—possibly they are primarily a method or medium of instruction whereby subject material takes on greater reality when associated with the world of work.

There is need for much study in this area in terms of identifying program objectives, strategies for implementing these programs, and curriculum development.

OCCUPATIONAL EXPLORATION IN THE JUNIOR HIGH SCHOOL

The junior high school or the middle school is a transitional stage in the educational continuum of students. This is a period of time when each student is confronted with decisions concerning educational and career selection. These decisions require a great deal of information and have long been neglected or slighted in the educational program. However, since 1963 there has been a flurry of activity designed to acquaint junior high school students with the world of work.

Super (1963) found that the values of exploratory courses, extra-curricular activities, and summer part-time employment were widely stressed by professional educators and counselors. The junior high school was a place where students could try themselves out in a variety of activities, becoming better acquainted with the world of work and with their relevant interests and abilities.

Super and Overstreet (1960) reported that "the maturity of ninth grade boys is such that to require the making of a specific vocational choice at that stage of development is often premature. Education in the ninth grade should be so organized as to make available experiences which foster a planful approach to developmental tasks, to arouse awareness of the need to make preoccupational and occupational choices, and to orient adolescents to the kinds and sequences of choices which they will be called upon to make and to the factors which they should consider in making these choices. It should not require the making of definitive, directional, educational, and occupational choices in this grade. Guidance in the ninth grade should appraise the student's planfulness, readiness to make vocational choices, concern with the need to choose, and awareness of the factors to be considered in choice. It should help students learn to find and use experiences which foster this readiness, and to make required preliminary choices in ways which keep as many doors open as possible for as long a time as possible. It should proceed on a tentative, step-by-step, developmental basis."

Matheny (1969) pointed out that a planned work-exposure program at the middle-school level could be especially valuable in helping non-college-bound youngsters through the exploratory years. Concern for career development should be genuine in all communities, but especially in providing inner-city youth with lifelike educational experiences. Real and simulated work experiences provide a catalyst for self and vocational exploration. These experiences, systematically arranged, expose students to broad occupational areas and provide them with a realistic base for comparing the psychological satisfactions offered by various types of work. An increasing number of games and problem-solving exercises should be coupled with group guidance to personalize the learning which occurs. Gysbers (1969) endorsed this philosophy when he maintained that the activity emphasis in grades 7 through 9 should be action oriented (career game and simulation type experiences) with particular focus on try-out work experiences. Counseling sessions should be an integral part of this and similar activities so that the activities can be used as a context to explore student values and attitudes, both personal and work related. Opportunity for exploring the wide range of occupations (using the job cluster approach) located in businesses and industries other than manufacturing would also be necessary. Still another activity at this age level, and in the environmental context of the school, are occupational oriented extracurricular interest clubs for purposes of career exploration. De Blassie (1970) felt that occupational information in the junior high school should be looked upon as an integration of all available appropriate materials into all aspects of the curriculum and the total school. Counselors should cooperate with teachers and encourage them to incorporate occupational information in their courses and other school activities.

Research and Development

A number of research projects have been conducted and workshops held to develop strategies, approaches, and curriculum materials for providing occupational exploration in the junior high school.

Krippner (1961) studied the frequency and influence of vocational type preferences among approximately 350 seventh and eighth graders. Student interests, past work experience, future educational plans, and attitudes toward courses were analyzed. Based on the combined results of the tests and on the findings derived from the various vocational factors perceived by the students, the ability to get grades appeared to have a greater amount of influence upon vocational preference than had IQ test scores.

The New York State junior high school prevocational agriculture courses were studied by Al-Salman (1965). He described the programs and determined what selected educators in agriculture believe the objectives and course content should be.

Yunker (1967) attempted to determine the effects of small group guidance sessions and industrial tours on an experimental group of eighth grade students deemed lacking in academic interest and/or ability who were classified as potential dropouts and non-college-bound students. The principal objectives of the experience were: 1) to make the students more cognizant of vocational opportunities for qualified persons, 2) to help them to select better academic programs, 3) increase their awareness of personal strengths and weaknesses, and 4) to increase their awareness of the relationship between school and work. No significant improvement in the experimental group was detected as a result of the treatment.

Sweany (1967) conducted a project to improve the quality and image of vocational education in rural secondary schools through the use of innovative curriculums. A three-day preschool workshop and several conferences for vocational teachers, counselors, and administrators from three participating schools were held to study problems in implementing courses having content common to several occupations and in restructuring the curriculum. Schools were given freedom in adjusting schedules and courses to provide the necessary instruction. All ninth grade students were encouraged to enroll in an occupational survey course to assist them in career and educational planning by interpreting their interests, aptitudes, and vocational abilities and by introducing them to careers in major occupational fields. Common competencies of several occupations were taught, and simulated work experience was substituted for supervised job experience where work stations were not available.

Darcy and Powell (1968) summarized a two-year research and curriculum development project for manpower and economic education at the junior high school level. Objectives of the project were: 1) to identify content and placement level, 2) to develop materials and field test them, and 3) to disseminate the results. A text, a teachers' manual, and tests of knowledge and attitude changes were developed and tested.

Budke (1970) in a doctoral study identified the important characteristics of existing junior high school occupational exploration programs; identified the unique and different approaches for initiating and conducting these programs; and with the assistance of a jury of educational experts refined a set of guidelines for organizing, operating, and administering junior high school occupational exploration programs. Thirteen major program area guidelines were developed and 75 guiding principles were listed to assist in implementing these program areas.

The Rocky Mountain Educational Laboratory (1969) at Greeley, Colorado, and Bush *et al.* (1969) developed a three-volume program entitled "Occupational Education Program; Image of the World of Work." Volume I contains the results of a workshop designed to influence work-relevant attitudes, concepts, and information through 89 teachers and principals representing 11 junior high schools and eight states. A series of teacher orientation conferences resulted in guidelines for the assessment of progress toward the objectives of the image of the world of work. The second volume of the program reports the development of instruments, evaluation design, changes in teachers' attitudes toward work associated with participation in workshops, lesson plans, changes in pupil scores in relation to characteristics of their teachers, and generalization on the outcomes of the intervention activities. Volume III presents guidelines for the development of lesson plans by participating teachers and representative lesson plans which were developed. Lessons were planned within the existing content of seventh grade language arts and social studies and included cognitive objectives, occupational information, attitudinal objectives, student tasks, and evaluation of lesson effectiveness.

Programs and Models

Several experimental programs and models for providing occupational exploration have been developed since 1963.

The North Carolina "Introduction to Vocations" program (Beam, 1964; and Clary and Beam, 1965) was one of the first programs of career orientation and exploration to be established through legislation. It began operation in 1963 and has served as an example for programs in many states. The program centered around an elective course in the ninth grade taught by an occupational specialist and placed primary emphasis on student planning and decision-making. Learning experiences were designed to make the course student-centered and to help students gain a more realistic look at themselves in relation to the world of work. The program was divided into six major units: 1) relating one's physical characteristics, educational experiences, aspirations, interests, aptitudes, and abilities to occupations; 2) relating our economic system to occupations and us; 3) exploring manual and mechanical occupations; 4) exploring clerical, sales, and service occupations; 5) exploring professional, technical, and managerial occupations; and 6) evaluating and planning ahead. A teacher's guide for "Introduction to Vocations" was developed to assist students in developing plans regarding their occupational and educational futures (Beam and Clary, 1968).

North Carolina launched a new occupational program in January 1970, which included occupational exploration for grades 6 through 9. This program provided occupational exploration for all students as an integral part of the total educational process. In time it will replace the "Introduction to Vocations" program offered in the ninth grade on an elective basis. The program design was an adaptation of the basic program in effect in the middle grades, altering the curriculum by the addition and expansion of practical "hands on" shop type experiences, and an infusion of occupational information into all subject areas. These two components were supported by improved guidance services and a modification of the basic curriculum to provide greater holding power for potential dropouts.

The Niles Community School, Niles, Michigan (1970) developed an "Occupational Education for All" program that incorporated several approaches to providing occupational information (Warren and Stevens, 1968 and Stevens, 1968). The "Occupational Information" program in grades kindergarten through 6 provided the ways and means of giving elementary children a more realistic view of the careers around them. Much of this information was an integral part of the day-to-day teaching. "Occupational Arts" was offered in grades 7 and 8. This was a productive activity lasting one semester in each grade and taught by a team of four staff members There was an industrial arts, business, home economics, and research and development specialist, plus an occupational counselor in each junior high school. These units were not designed to prepare students for entry into specific occupations, but to develop through actual work experience some insight as to how people get their work done. The eighth grade also had a concentrated three-week "Occupational Information" unit prior to entering the ninth grade where students were exposed to various families of vocations and professions. Ninth graders were allowed to select a specific area of interest for more exploration and in-depth study. The program was being expanded further by requiring a semester course in "Occupational Economics" for all tenth graders.

The New Jersey State Division of Vocational Education (1965) organized a comprehensive "Teachers' Guide for a Model Program in Introduction to Vocations" for terminal eighth and ninth grade students. The course was divided into seven units: 1) Introduction; 2) Understanding Yourself—Individual Characteristics, Interests, and Abilities as they Relate to Occupations; 3) The Economics of Industry; 4) Exploring Occupational Relations to the Field of Home Economics; 5) Exploring Mechanical Occupations; 6) Exploring the Business World; and 7) Evaluating Your Experience and Planning Ahead. Among the unique characteristics of the project were: 1) the cycling; 2) the team approach using several teachers, counselors, and coordinators; 3) the examination of self, economics, and work; and 4) the attempts to relate subjects to careers. Another feature was the "Two-Week Look at Business," in which students had a chance to try out jobs in Bell Telephone, Penn Mutual Life, Atlanta Refining, and Curtis Publishing. This, along with a number of field trips, required community cooperation (Hansen, 1970).

Dzurenda (1969) described the New Jersey "Introduction to Vocations" program in a summer setting. Because the present 40 periods per week were scheduled already and so that parochial school children might be included, the junior high school offered the course during the summer months. A six-week program was organized for 60 students; boys and girls were cycled through home economics, industrial arts, science, health services, and business occupations.

The Ohio Division of Vocational Education under the Exemplary Program section of the 1968 Vocation Education Act Amendments initiated seventh and eighth grade career orientation programs in a number of Ohio schools (Brum, 1969). Six school systems served as pilot schools during the 1969-70 academic year and each was allowed to develop its own program. The Pomeroy, Cincinnati, and Dayton, Ohio programs are selected examples.

Two full-time career orientation teachers were employed at the Meigs Local Junior High School at Pomeroy, Ohio, one to work with the seventh grade and one to work with the eighth grade (Meier and Kennedy, 1969). All students met for one 45-minute period daily with the career orientation teacher for five weeks of each six-week period. During the final week of each six-week period, all teachers assisted with large group meetings and field trips for five full days. In the seventh grade, each six-week period was devoted to a certain job family, while eighth graders studied particular jobs in a given family group.

The Cincinnati Public Schools (1969) employed a unified approach to familiarizing junior high school students with career opportunities. In organizing the program, the teachers in each subject area were asked to list the topics of subject matter to be taught in their curriculum and the specific careers and industrial use with which they might be identified.

The program was implemented through a career orientation committee consisting of two members each from the area of English, mathematics, science, and social studies; and one member each from home economics, industrial arts, art, the counseling staff, and the school library. This committee met after school and was responsible for conducting activities involved with school-wide career orientation programs, securing career information, identifying equipment and instructional supplies that could be used to supplement the program, evaluating, and acting as the leader in their subject area. The major portion of career information instruction occurred in industrial arts and home economics classes. Topics and activities were programed to place students in many roles that simulate management, production, and personnel practices used in industry.

An interdisciplinary program approach was employed by the Dayton Public Schools (1969) involving the science, mathematics, social studies, home economics, and industrial arts areas. The program provided student activities and experiences related to understanding job opportunities in agriculture, business, construction, manufacturing, distribution, marketing, services, and professions. A "hands-on" approach was offered in all school subjects, with an opportunity for pupils to participate in actual work practices in industrial arts and home economics. There was a deliberate attempt to relate subject matter to the world of work, exposing students to a wide range of jobs and careers, and discussing the qualifications and education required to obtain employment and gain success. Class work included such activities as: 1) programing punch cards through data processing, 2) using adding machines, 3) filling out employment application blanks, 4) growing a classroom garden, 5) building a model home, and 6) testing and self-appraisal. The real world of work served as the laboratory for career exploration through field trips, resource speakers, and visual aids.

The Minneapolis Public Schools (1968) designed a manual to serve the classroom teacher as a guide to accompany the televised series of programs on the world of work. The televised series was designed to give a broad overview of many occupations by bringing into the classroom speakers from all levels of job preparation. Primary program objectives were: 1) to present information on occupation areas, job families, and related types of work possibilities; 2) to stimulate further investigation by the students into the world of work; and 3) to provide a basis for program planning for the senior high school.

Olson Junior High School in Minneapolis (Knox, 1969) undertook an expanded vocational guidance program, continuous from the seventh through the ninth grades, planned and administered by a committee of students and counselors with the assistance of other students and teachers. During the seventh grade, parents and other adults living or working in the school district were invited to come to school to talk about their work. Counselors visited each eighth grade social studies class where they described and discussed jobs and job families. Modified career-day programs were utilized in the ninth grade, with four separate programs presented at one-month intervals.

The "Early Career Education" project at the Bancroft Junior High School in Wilmington, Delaware (1969) was an experimental program designed to shift the emphasis from the traditional subject-oriented curriculum to a life-centered curriculum. It was directed primarily at the culturally disadvantaged youngsters of the ghetto, providing enrichment activities to broaden their world of work horizon beyond the local community. Team teaching was used, utilizing the English, social studies, mathematics, science, and foreign language teachers in an interdisciplinary approach. The program was augmented with field trips to cultural work sites.

Jefferson County Public Schools, Lakewood, Colorado (1969) instituted a program of occupational exploration entitled "Language, Work, and You," which was unique in that it was provided primarily by the language arts teachers in the school. Seventh, eighth, and ninth grade students explored the world of work while developing oral and written communications. A resource center located in each school was the key to the program. Seventh graders participated in group problem-solving sessions to develop and reinforce communication skills. Eighth and ninth grade students became acquainted with jobs through audiovisual materials, textbooks, and resource persons. Practical experience was provided by writing letters of application, filling out Social Security applications, and securing work permits.

Petersburg Public Schools, Petersburg, Virginia (1967) developed a seventh and eighth grade program entitled "Pre-Technical and Pre-Vocational Education." To qualify for the program, students had to possess a satisfactory school record, express a desire to participate, receive recommendations from teachers and principals, and secure permission from their parents. Eighth grade students selected four vocational areas offered in the school and rotated through each of them during the school year, one hour per day for nine weeks per area. Ninth grade students enrolled in two vocational courses, each one for one hour per day for the full year. Participating students were grouped in separate classes so that their activities in science, mathematics, social science and English could be coordinated closely with the vocational program.

"Project ABLE" was the development and evaluation of an experimental curriculum for the Quincy, Massachusetts Vocational-Technical School (Morrison and Lecznor, 1966). The junior high school was a very important aspect of the vocational plan and one of the primary objectives was student participation in activities which required self-evaluation, investigation of the world of work, and matching credentials with available educational and vocational opportunities. Because the program was an individual student activity, special materials were created. These materials included a Grade 7 Student Vocational Plan, a Grade 8 Student Vocational Plan, a Grade 9 Student Vocational Plan, and a Counselors Handbook

("Project ABLE" interim report, 1969). These junior high school vocational plans had the following characteristics: 1) prepared students to select high school courses to study, 2) met limited objectives, 3) related to overall curriculum design, 4) were suitable for all junior high school students, 5) demanded active student participation, 6) emphasized the process of vocational choice, 7) provided factual information, 8) allowed for flexible operation, 9) minimized reading problems, and 10) focused decision-making activities (Hudak and Butler, 1967).

The Oregon State Department of Education (1968) produced "Self Understanding Through Occupational Exploration" (SUTOE), a one-year course designed to assist ninth graders with educational and career planning. SUTOE aimed at enabling students: 1) to gain knowledge and understanding of possible future goals and job opportunities, 2) to develop social skills in applying for work via application and job interviews, 3) to gain understanding of employers' viewpoints and requirements, 4) to broaden knowledge of the general economic structure as related to labor force needs, 5) to understand the importance of opportunities offered through high school and post-high school training programs, and 6) to assess one's own strengths and weaknesses. Within this framework there is a synthesis of efforts from guidance, career education, and general education. A guide is available for SUTOE which presents 10 units with suggested means of implementing each objective (Parnell *et al.,* 1969). Examples of the units are: 1) Pupil Involvement in SUTOE, 2) Self-Appraisal and Self-Understanding, 3) Relating School to Occupational Planning, 4) The Individual's Role in the Economic System, and 5) Evaluating Experiences and Planning Ahead.

The Arkansas State Department of Education (1970) developed a vocational orientation teacher's guide for use in grades 7, 8, or 9. This suggested teaching guide contains the general, basic, and fundamental factors to be considered about self, and about the various occupations and the general world of work. It was designed also to help a student analyze any given occupation and to guide the student in self-analysis and motivation for career development as required by the occupation and the world of work. A guide for decision-making is provided with emphasis placed on techniques and methods of decision-making rather than on making a definite career choice. The manual is divided into the following subtopics: 1) General Self-Development Required for Success in the World of Work, 2) General Occupational Study, 3) Exploring Occupations and Self in Relation to Occupations, 4) How to Make a Decision in a Comprehensive Study of the World of Work, 5) Making a Long-Range Training Plan and a Plan of Finance to Pursue the Occupation of your Choice, and 6) Job Placement. The "Vocational Orientation Teacher's Guide" will be utilized in a course entitled "Introduction to the Wide World of Work" offered as a prevocational experience in the seventh, eighth, or ninth grade. This may be a classroom activity supplemented by films, speakers, resource people, and field trips.

The Los Angeles city school system offered exploratory agriculture courses in the seventh through the ninth grade (Wolfson, 1970). Four courses were offered: 1) exploratory horticulture, 2) horticulture, 3) floriculture, and 4) introductory landscape horticulture. All seventh grade boys were enrolled in a 10-week exploratory program and students who developed an interest in horticulture could enroll during grades 8 and 9 in a two-year elective horticulture course. Girls could take an elective course in floriculture.

The "Elementary Agriculture" program of New Holland, Pennsylvania provided students in grades 6 through 8, with rural backgrounds, an opportunity to explore several agriculturally related subjects in high school before they left school due to lack of interest. Students participated in the program for one hour per week, involving such class activities as demonstrations, resource persons, films, field trips, and worksheets (Herr, 1968).

Clearwater Comprehensive Junior High School, Clearwater, Florida, emphasized prevocational exploratory experiences at increasing depth for each succeeding grade level (Florida Department of Education, 1970). Seventh grade students were scheduled for a two-module block of exploratory experiences which included a three-week session in each of 12 areas. Eighth grade students explored their interests in semester courses for three modules per day, and ninth grade students could study up to two hours a day for a semester or a year. The following areas were offered: 1) business, 2) construction, 3) dry cleaning, 4) home economics, 5) electronics, 6) food services, 7) graphics, 8) tailoring, 9) horticulture, 10) metal shop, 11) drafting, and 12) power mechanics. A "Junior High Work Experience Program" was open to eighth and ninth grade students. This program permitted those students who needed work the opportunity to attend classes part of the day and work the remainder of the day.

The Connecticut State Department of Education adopted a policy which states that the Vocational-Technical Schools' ninth grade shall be of an exploratory nature. Shop time was primarily exploratory because most ninth grade boys have progressed only to a tentative state of occupational selection. All students sample vocational experience in at least six shop areas, consisting of 10 scheduled school days each, and were assigned to a minimum of one group guidance class during each related week.

The South Carolina Department of Education (1970) designed a prevocational education program to be taught in grades 7, 8, 9, and/or 10 consisting of a minimum of five different areas of vocational education and a unit on the world of work. Curriculum components included communicative, computational, and quantitative skills along with occupational information and civic responsibilities. The program was exploratory in nature, and was designed to provide the student with an orientation to the various occupational areas available for skill training in that particular school-community setting. A variety of teaching approaches could be used;

however, team teaching was the recommended method. The team might be made up of one or more vocational teachers, a guidance counselor, or individuals specifically trained for a prevocational program.

The Oklahoma State Department of Vocational-Technical Education (1970) developed a guide for teachers to use in teaching a course in career exploration in grades 8 through 10. Major course areas are: 1) Know Yourself, 2) World of Work, 3) Use of Occupational Information, and 4) Career Educational Planning.

Darcy (1968) designed an experimental junior high school course in occupational opportunities and labor market processes. Instructional materials, evaluation instruments, and a realistic classroom educational program for bridging the gap between school and work were provided to three pilot schools. Major program objectives were to: 1) identify appropriate course content for economic and manpower education, 2) develop instructional materials, and 3) develop evaluation instruments and procedures.

The "Full-Time Counselor Who Conducts and Coordinates an Exploratory Program in Grades 7–9" model, proposed an orientation to the world of work using the Data-People-Things framework of the revised *Dictionary of Occupational Titles* (DOT). The model suggested using the Ohio Vocational Interest Survey (OVIS), a recently developed inventory designed to help students explore their vocational interests in relation to the DOT and in relation to 24 scales within which all jobs classifiable in the DOT can be grouped. OVIS uses the Cubistic Model of Vocational Interests based on the premise that data, people, and things are essential elements of involvement in any job. The OVIS consists of a six-item Student Information Questionnaire and a 280-item Interest Inventory which usually takes 40 to 50 minutes to complete. It may be used to assist students in making high school and post-high school plans, to help potential dropouts identify occupations consistent with their abilities and interests, to assist counselors in planning occupational units, and to serve as a basis for building an occupational information library (Winefordner, 1969).

Bottoms and Matheny (1969) suggested three junior high school career exploration models which place a large responsibility upon the school guidance counselor for implementation. The "Program of Education and Career Exploration" (PECE) would provide students with an opportunity for simulated or direct work experience in each of six occupational categories. After each experience, group sessions would be held to discuss the various aspects of the work role.

Another model would utilize the existing vocational programs for providing exploratory experiences prior to student entrance into a specific vocational area. This program presupposes a very close working relationship between the counselor and the vocational teachers.

The "Forsyth Plan" used industrial arts, home economics, and agriculture as a core around which the basic academic curriculum, such as mathematics, science, and English were centered. It was designed to make the educational curriculum more meaningful to the socioeconomically disadvantaged.

Hansen (1970) examined a number of junior high school career exploration programs, some of which have been discussed previously in this review. The programs are classified according to type rather than grade level (i.e., programs of developmental or sequential character, programs with courses, and coordinated school-community programs).

DeBlassie and Jones (1967) compiled a source of occupational information materials relevant to opportunities in vocational education which are appropriate for use with junior high school students in New Mexico. An additional purpose was to establish and suggest some guidelines through which materials may be evaluated and integrated into the junior high school curriculum. The scope of the publication includes: 1) characteristics of the junior high school student, 2) criteria for evaluating occupational information, 3) the use of occupational information in the classroom, and 4) a listing of resource materials.

The New Mexico State Department of Public Instruction (1968) published a bibliography listing the title, author, publisher, and grade level of 49 books selected for the purpose of providing vocational information to school children in kindergarten through grade 8.

Summary and Conclusions

The junior high school level of occupational orientation and exploration is the most highly developed. This may be attributed to the way in which occupational exploratory programs evolved. Although comprehensive kindergarten through grade 12 programs are desirable, available resources forced piecemeal development and the junior high school was thought to provide the greatest immediate benefit.

Junior high school occupational exploration programs generally utilize either a separate course approach or an interdisciplinary approach. Programs in grades 7 and 9 appear to be orientational in nature, while grades 9 and 10 emphasize exploration and are beginning to capitalize on industrial arts programs or at least utilize some of their exploratory concepts for this purpose. Most programs are receiving federal moneys for program development, are involving parents and the community to a high degree, and are utilizing guidance expertise regardless of the discipline responsible for the program.

It would seem that teachers have not accepted completely occupational exploration as a part of the school curriculum, as most programs have been imposed by the administration. Teachers must be helped to understand that occupational exploration material is meant to supplement rather than replace subject material, and they must be shown how to incorporate this material into their courses.

Experimental programs need to be advertised through publication of articles and reports concerning program design, curriculum, personnel, and evaluation. Lines of communication must be established between programs to enable practitioners to capitalize on each others' experiences.

OCCUPATIONAL EXPLORATION IN THE HIGH SCHOOL

The high school vocational teacher has long been in a unique position to direct and assist students with career decisions. Eaddy (1970) identified the following ways in which the vocational teacher could aid his students:

1. Become familiar with the interests and needs of students.
2. Take every opportunity to become professionally and technically prepared to provide occupational counseling to high school students.
3. Develop an understanding of opportunities and requirements of the world of work.
4. Coordinate vocational counseling activities closely with administrators and guidance personnel.
5. Supply specific occupational information to students which would not otherwise be available through general guidance activities.
6. Work closely with students and businessmen to provide practical vocational education and realistic work experiences.
7. Hold individual conferences with students concerning occupational plans.
8. Conduct placement and follow-up services as needed for effective student career planning and program evaluation.

Flanagan and Cooley (1966) reported that the follow-up of Project Talent indicated a high degree of instability of the plans of boys and girls in grades 9, 10, 11, and 12. For the most part they are unrealistic and poorly thought out. Therefore, schools must develop a better program for helping the student to understand both himself and the various roles for which he might prepare himself. Although it is unnecessary that the student plan his specific career, he must at least choose some broad field if he is to lose no time in preparing for his ultimate career.

Occupational exploration of job clusters is becoming increasingly common in high school. Several special projects, program models, and operational programs have been developed to provide or assist in providing occupational exploration for high school students.

Projects

Briggs and Norris (1966) reported on a project aimed at developing and evaluating occupational information material for high school students. The material was designed in booklet form and corresponded to student needs at different stages of individual development: 1) the need to realistically perceive the place of both sexes in relation to the working world, 2) the need for awareness of the wide range of job families which one might enter, and 3) the need to select a specific educational or training program for a particular job in which one is interested. The pilot materials were designed for use in career planning in the secretarial job family.

The San Diego Regional Career Information Center (Gerstein and Hoover, 1967) conducted a special project called "Vocational Information for Education and Work" (VIEW). Six secondary schools were selected to participate in the pilot project designed to provide secondary school and junior college counselors and students with restructured, usable occupational information based on the local job market. The project incorporated provisions for occupational information, counselor in-service training, and the mobilization of community resources.

Program Models

Boynton (1966) described a model for a career guidance system that appeared to effect positive change for students, schools, and the community. There were four phases to the model, one for each year of high school. The students' skills, aptitudes, interests, intelligence, and achievement were determined at initial fact gathering sessions. This information was stored in a computer where students could obtain information about grades, courses taken, and college acceptance. Students were assigned by the computer to discussion groups which focused on the selection of occupational objectives. Career seminars provided students with the opportunities to talk with representatives of careers in which they had an interest and where feasible, senior year students were given work experience opportunities.

Albracht *et al.* (1968) proposed a model for using existing vocational programs for exploring occupations at the upper junior high and senior high school level. Shop or laboratory-type classes or cooperative part-time programs were used for this purpose. Orientation, exploration, applied experiences, and evaluation and follow-up phases of activities provided the exploratory experiences.

Programs

The New York City Board of Education (1967) initiated a course of study to upgrade the education of the general student and provide a sense of direction and commitment. Primary features of the program were: 1) exploratory courses for grades 9 and 10 in the areas of business, health, and industry; 2) specialization in one broad area in grades 11 and 12; 3) preparation of those who wish to continue their education to the 13th and 14th years in a community college or urban center; 4) special counseling and placement through the services of a full-time guidance counselor assigned to each school; 5) new curriculum materials in each course, coordinated between classes; 6) emphasis on improving basic skills; 7) provisions for daily team teachers' meeting to plan work; and 8) training workshops for teachers.

Ligonier, Pennsylvania developed an "Occupational Orientation Program" to provide specialized training for a group of students generally not adequately served in a comprehensive high school. These students were not enrolled in an area vocational-technical school because they lacked interest or did not meet the academic standards of the school (Griffith and Dye, 1969).

Hawaii offered its "Introduction to Vocations" program in the senior high school rather than the junior high school because the specialized occupational programs were lodged in the post-secondary institutions. This course was only one segment of the overall "Preparatory Vocational-Technical Education" program. A "Preindustrial Preparation" program served the disadvantaged, the underachieving, and the culturally deprived students. An "Occupational Skills" program was designed for those with limited abilities, and the "Introduction to Vocations" program assisted the remaining 86 percent of the students in grades 10, 11, and 12. The "Introduction to Vocations" program was developed for students with different kinds of abilities, interests, and aptitudes rather than different levels of ability. It allowed students to explore several vocational-technical fields by enabling them to select one or more course offerings from eight large occupational families. The time spent in each course ranged from one semester to two years depending upon student interest (Hawaii Department of Vocational-Technical Education, 1970).

Publications

The Bureau of Employment Section of the Department of Labor (1965) developed a booklet for teacher and student use in an instructional unit which oriented junior and senior high school students to the world of work. Basic principles and techniques for obtaining a job were described in the following topics: 1) Self-Appraisal, 2) Preparing a Résumé, 3) Letter of Application, 4) Sources of Information, 5) Planning Your Time, 6) Job Interview, 7) Testing, and 8) After the Interview.

A publication entitled "Vocational Information for Education and Work" (VIEW) was developed by the Utah Research Coordinating Unit for Vocational and Technical Education (1967). The purpose of the volume was to provide a readily accessible source of vocational information which acquaints the high school student with a wide variety of the jobs available in Utah. The 121 job descriptions were arranged alphabetically in outline form, and provided basic job information.

Hansen (1970) identified and described 11 high school units and courses in occupations being developed or taught in schools around the nation.

Summary and Conclusions

Occupational exploration of job clusters and exploration work experience is becoming more prevalent in the high school, although there is some conflict between vocational educators who believe that specific job skills should be developed in high school and those who advocate continued in-depth occupational exploration at this level. Possibly the answer is a program sufficiently flexible to satisfy the needs of various individuals.

Guidance personnel are using increasingly sophisticated techniques in providing occupational information and student assessment, as evidenced by the appearance of computer-assisted occupational information systems. Publications containing information about the characteristics and requirements of various jobs are also common.

COMPREHENSIVE APPROACHES TO OCCUPATIONAL EXPLORATION

Most state departments of vocational education were in the process of developing statements of philosophy and identifying objectives underlying vocational and technical education in their states at the time of this writing. In general, most were working toward a comprehensive vocational education structure beginning in kindergarten and extending through high school. The philosophical trend was evident in the following statements of philosophy, program objectives, and program descriptions by state departments, school systems, and educational researchers.

A comprehensive structure for providing needed occupational information and exploration is not a new concept. It has long been advocated by vocational guidance personnel, as Altman (1966) suggested in a speech delivered to the Occupational Information and Vocational Guidance Conference in 1966. He saw occupational information based on a continuum encompassing the stages of: 1) vocational awareness, 2) career planning capability, 3) general vocational capability, 4) neophyte capacity, and 5) journeyman capability.

Bush and his associates (1969) at the Rocky Mountain Educational Laboratory presented a position paper offering guidelines for an approach to career planning which integrates educational experiences with the world of work and job requirements. The three components of their proposed program were: 1) "The Image of the World of Work," designed to help teachers emphasize work-relevant attitudes and occupational information throughout a student's total school experience; 2) the occupational cluster curriculum, designed to create and test a scheme for development of occupational education curriculums based on a career cluster concept at the secondary school level; and 3) cooperative career planning, a concept which stresses coordination of all relevant community resources.

The Idaho State Board for Vocational Education (1968) identified three primary areas of educational experience. First, there is a program of occupational information and orientation starting in the elementary school and continuing through the adolescent period. Experience at this stage of career development provides an orientation to the importance and meaning of work in the life of man. The general objective is to provide the foundation necessary for making wise career decisions and choices. The second program is one of occupational exploration and experimentation to provide youth an opportunity to broaden their occupational aspirations and opportunities through actual occupational experience, to test tentative occupational choices through practical laboratory experience, to experience both the advantages and disadvantages of work in various fields, and to develop basic habits and attitudes toward work. The third program of vocational education includes a sound base in educational and social skills, prevocational and exploratory courses, and courses designed to provide the student with a salable skill upon graduation. These three areas should occur at the elementary school, junior high school, and senior high school respectively.

A comprehensive occupational exploration program was identified by the New Mexico State Department of Vocational Education (1969). It consisted of an integrated program in the elementary grades to improve the image of the working man and a general familiarization of the world of work, a course in the junior high school covering all phases of occupational information, and several courses in the senior high school of an exploratory nature leading to specific job training. The elementary program should consist of audiovisual and text materials integrated into the regular curriculum, depicting the working man as an important and respected part of our society. In the eighth grade, the student should be offered a course in occupational information. Grades 9 through 11 should be spent in exploratory courses of a general nature, yet structured to lead into a trade or other occupational training area. This concept also could apply to other vocational areas such as office occupations and home economics. In the 12th year, the school might offer courses in cooperative work training, block vocational classes, or allow students to attend an area vocational school. New Mexico also defined the educational process in terms of general education, prevocational education, and vocational education. Program models and course objectives were developed for six vocational areas (New Mexico Division of Vocational Education, n.d. and Runge, 1968).

Oregon has developed a career education approach that presupposes vocational orientation and exploration in the elementary and middle grades and post-secondary education as the most likely step after high school graduation (Parnell, 1969). General education must provide illustrations of how subject material relates to the world of work in the elementary and middle school grades and the "Self Understanding Through Occupational Exploration" (SUTOE) program at the ninth grade must be implemented fully. The "Career Cluster Concept" is based upon two assumptions: 1) Secondary schools should be preparatory institutions for all students; and 2) The program should tie the curriculum to the goals of students in such a way that they are motivated while in school and better equipped to choose from among many alternatives as they take the next step after high school. This approach was aimed at the development of skills and understanding which relate to clusters or families of occupational fields. High school experiences are centered upon the knowledge and skills common to the occupations which comprise a cluster or family (Kunzman, 1970).

A comprehensive document outlining the master plan for education was developed by the Nevada Department of Education (1969). Volume I described the organization and administration of the State Department of Education; administration of district and local systems; and curricular patterns in early school years, middle years, prevocational years, career development years, and adult general education. Volume II involved the educational facility, financing public education, and school services. Nevada is adopting the "Career Cluster Concept" educational plan proposed by Oregon.

The District of Columbia Department of Vocational Education (1969) proposed a plan for career development in its public school system. At the elementary level a "Career Foundations" program would focus on the economic realities underlying our society and upon the expanding role of technology. The junior high school (grades 7 and 8) was to be redesigned to relate academic studies to a comprehensive "Survey of Careers" in our society. All high school students would register jointly in their area high school and in a "Comprehensive Career Development Center." The center would be divided into several clusters, each with close ties to business, industry, governmental and professional institutions, and provide general and specialized vocational as well as related academic courses.

Wyoming designed a "Comprehensive Occupational Education Program" (Talagan, 1970). The kindergarten through grade 6 program was called "Attitudes Toward the World of Work" and emphasized attitude development without changing the existing curriculum. It proposed to develop in all children a respect for all work and a motivation for productive citizenship in the world of work. A "Career-Orientation Program" for all seventh and eighth grade youth was designed to provide an understanding about broad areas of our economy such as manufacturing, construction, service, marketing, agriculture, business, and professions. Grades 9 and 10 featured a broad "Career Exploration Program" leading toward a tentative choice of an occupational goal by age 16. A "Career Preparation Broad-Skill Program" was to be instituted at grades 11 and 12, serving a wide range of interests, abilities, and employment opportunities.

The Ohio Division of Vocational Education has developed a "Job Oriented Education" model. When fully implemented, the program would start in the elementary grades (K–6) by developing a general understanding of and respect for the world of work. Students would become acquainted with various occupations by incorporating this information into their regular courses. Career orientation would occur in grades 7 and 8, where all the major classifications of the Standard Industrial Code are studied. Students would be involved in field trips, role playing, general assignments in terms of job characteristics, and requirements in pay. Grades 9 and 10 were termed the vocational exploration period. Students would be given an opportunity to explore a number of occupational areas in greater depth, and actually participate in several skills. This program would seem to be carried out best through laboratory courses such as general agriculture, industrial arts, home economics, and business education. Vocational education job preparation and work experience at the depth and quality necessary to prepare persons for a specific job would be provided at the 11th and 12th grade levels (Brum, 1969). The Ohio Division of Vocational Education (1970) indicated that 16 "K–6 World of Work," 48 "Career Orientation," and five "Career Exploration" programs were in operation during the 1970–71 school year.

Crews (1969) reported on a model for a career-oriented curriculum for all grades which was to be implemented in the Cobb County Public Schools, Marietta, Georgia. The program was based upon the following framework: 1) Elementary School: Information and Orientation; 2) Middle School: Orientation and Exploration; 3) Senior High School and College: Exploration and Preparation; and 4) Continuing Education: Upgrading and Retraining. The program was for all students, serving the needs of the college-bound students as well as those students heading for the labor market upon graduation.

Leonard (1968) reported on the Developmental Career Guidance Project (DCGP) in Detroit, funded by the Office of Economic Opportunity and cosponsored by the Detroit Public Schools, Wayne State University, Plans for Progress, and College Entrance Examination Board. A variety of sequential activities were developed involving both the school and community in a program geared to the needs of selected inner-city youth. Primary purposes of the program were: 1) to raise and broaden occupational goals of students in disadvantaged schools in Detroit, 2) to develop a pilot project to better meet the needs of inner-city youth through emphasis on educational-vocational career guidance in grades 1–12, 3) to involve the staffs of the participating schools through cooperative planning and development, and 4) to systematically evaluate the program through analysis of student plans and attitudes. Each project school had a guidance team consisting of a guidance consultant, a career community aide, and student assistants who, together with principals, teachers, project staff directors, and special consultants, work with students and their parents.

The specific objectives were: 1) to broaden the perceptual field of inner-city youth regarding occupations, 2) to help overcome the lack of planning for the future, and 3) to provide better role models. Phase I of the project, a workshop, attempted to orient school personnel to the special needs and characteristics of inner-city youth, as well as to community agencies, institutions, and employers. The project schools carried on the following kinds of activities: 1) individual and group guidance; 2) dissemination of educational and occupational information through individual classes and special assemblies; 3) broadening of perceptions through weekly field trips to industries and speakers invited to the school; 4) work with parents, both informational and advising; and 5) work with the community, particularly through close liaison with community agencies and neighborhood organizations. Attempts were being made through teachers at all levels to relate subject matter with the world of work and self-development (Hansen, 1970).

Baker, Dilworth, and Eaddy (1969) described the "Curricular Approach to Vocational Choice Through Vocational Agriculture" as a program designed to supply students with information and experiences upon which to base their occupational decisions. Students were introduced to the world of work in the seventh grade "Introduction to Occupations" course. This was a beginner's course in elementary life-science and its application to vocational arts. At the eighth grade level, an orientation to work opportunities and requirements in elementary agribusiness, science, and industry were studied. Ninth graders enrolled in "Vocational Orientation," a study of occupational requirements of agribusiness and industry. Upon entering the 10th grade, the student immediately narrowed his occupational choice to a cluster objective in either agribusiness or basic industry. "Specialized Agribusiness and Basic Industry" at the 11th grade was devoted to advanced occupational study, while at the 12th grade, the course became an advanced-study and mechanical skills laboratory.

Indiana had a Career Research Center at Indiana University in South Bend which was intended to be a prototype for the entire state. Employment-bound youth were being involved with career information, guidance, and counseling through a total community approach to career guidance. The Center was funded by a grant from the Vocational Education Division, Indiana Office of the Superintendent of Public Instruction.

Numerous services were offered by The Center, some of which were: 1) printed material relating to occupational exploration in the form of books, booklets, monographs, and technical papers; 2) filmstrips, movies, and sound tapes on occupations; 3) educational games and simulations; 4) a directory of resource persons; 5) various formats for presenting career exploration ideas to large groups; 6) a training laboratory for graduate students in counselor education; and 7) special project planning, management, and evaluation services.

The Oklahoma State Department of Education (1968) constructed a comprehensive booklet for use in the public schools as a guide for developmental vocational guidance in grades K through 12. The guide presented objectives, classroom activities, sample materials, and printed audiovisual references for levels K–3, 4-6, 7-9, and 10-12.

Scientific Research Associates (SRA) had a number of career information materials available to teachers and guidance personnel. Their Career Information Kit (10–12) provided a complete library of occupational material, furnishing comprehensive information on jobs which employ over 90 percent of the labor force. SRA Occupational Briefs for grades 9-12 and SRA Professional Guidance Kits were available for guidance use and counselor training. Also available from this company was a vocational guidance series for use in grades K through 9:

1. *A Book About Me*—Grades K-1.
2. *What Could I Be?*—Grades 3-6.
3. *What I Like To Do*—Grades 4-9.

The foregoing were comprehensive occupational exploration programs identified through literature; however, correspondence with many of the states indicated that they were in the process of developing or approving statements of philosophy and operational plans concerning comprehensive vocational education programs which were not available at the time of this writing. Much of this information may not be available in published form, but possibly may be secured by contacting individual state departments of education.

Summary and Conclusions

Literature identifies a trend toward comprehensive vocational education programs or master plans for education. Regardless of the title, they refer to a total educational program beginning with the world of work association in the elementary school, orientation to the world of work in the middle school, exploration of the world of work in grades 9 and 10, and in-depth exploration of career clusters and skill development in the 11th and 12th grades.

These philosophies and program descriptions imply a close working arrangement among vocational educators, general educators, and guidance personnel. This has many implications regarding the understanding of each others' philosophies and programs, and will necessitate thinking in terms of our program rather than your or my program.

Program philosophies and descriptions are not common in the literature: first, because many are still in the development stage and second, they are developed primarily for the use of the individual state. Usually it is possible to secure this information by writing directly to each state department of education.

The information void in this area now appears to be strategies and specific implementation procedures for these proposed educational frameworks.

OCCUPATIONAL EXPLORATION EXEMPLARY PROGRAMS

The Exemplary Programs and Projects Section of the 1968 Amendments to the Vocational Education Act of 1963 was provided for the explicit purposes of identifying ongoing programs which could serve as models for improving the vocational education of students at all levels, and stimulating interest in and providing the means for creating new, more efficient, and effective methods of providing for job preparation. More specifically, this section applies to programs designed to acquaint elementary and secondary school students with the broad range of occupations for which special skills are required (Bottoms and Matheny, 1969).

Many state departments of vocational education have taken advantage of this opportunity to develop occupational exploration programs (Ward and Kazarian, 1970). These programs vary in size and scope, but generally fall into the following categories: elementary school, junior high school, junior and senior high school, senior high school, comprehensive (K–12), and disadvantaged programs.

Elementary School Programs

The following program is directed primarily at teaching elementary school children about the world of work:

Project Devise
Developmental Vocational Information and Self-Enhancement

Project Devise was designed to orient elementary pupils to careers, with special attention given to: 1) opportunities for elementary pupils to identify personally with occupations, incumbents of these occupations, and the role of the individual in these occupations; 2) development of a positive self-concept so as to effectively participate in the work environment; and 3) development of the attitudes toward self and others that respect the potential contribution of each individual to society. The primary objective of this project was to design an occupational education curriculum and to demonstrate its use by the regular classroom teacher in teaching elementary school children about the world of work. (Nebraska)

Junior High School Programs

The following exemplary programs are designed for middle school and junior high school students:

Program of Education and Career Exploration (P.E.C.E.)

The purpose of the P.E.C.E. Program was to provide to all students at grades 7, 8, or 9, experiences and knowledge that would serve to formulate a basis upon which a more appropriate educational and occupational choice could be made at future major decision points. The program was designed for all students regardless of their level of educational attainment and focused on the entire spectrum of educational and occupational opportunities. The intent of this program was not to force the student to commit himself to an educational or occupational choice but rather to assist him to acquire the basis upon which future "vocational or educational decisions" could be made. (Georgia)

Careers Unlimited: A Vocational Education Television Series

The purpose of this ITV series was to assist all intermediate and middle school students in the process of career development. It had as its central focus the expansion of the student's understanding and appreciation of himself and the potential work environment. It permitted the student visual access to the multitude of career alternatives which existed around him and encouraged his exploration of these alternatives by way of vicarious experiences. (Maryland)

Junior and Senior High School Programs

The following occupational exploration exemplary programs are targeted at the junior and senior high school levels:

Pilot Occupational Education Programs for Small Rural and Suburban Arkansas Schools in Grades 5 Through 12

The purpose of this project was to assist rural and small suburban school districts in establishing occupational education programs for students in grades 5 through 12. Priority in selecting participating schools was given to those in economically depressed areas and those with high rates of school dropouts. It was anticipated that the establishment of such programs would encourage students to: 1) remain in school until they had completed their secondary training; 2) be better prepared to enter post-secondary training; and/or 3) obtain entry level skills to enter the world of work upon graduation. (Arkansas)

The Career-Centered Curriculum for Vocational Complexes In Mississippi

The Occupational Orientation Program (OOP) was begun in September 1969 in grades 7 through 12. Thereafter, it was to be offered primarily in the seventh through ninth grades, but would still accommodate students in higher grades who were unable to schedule it in junior high school. The cooperative education aspect of this proposal was an extension of the OOP in that it provided exploratory experiences in occupations, as well as work-experience of varying duration for students who had already entered one of the longer term training programs. Following ascertainment of interests and attitudes of non-vocational students, special intensive, short-term courses were set up to offer entry level job skills (e.g., seniors might spend one-half to full-time during the second semester of their 12th year in courses that would include sales and marketing skills, or metal working machine skills). (Mississippi)

A Project to Improve the Use of Occupational Information In New Hampshire

The purpose of this project was: 1) to collect, abstract, synthesize, store, and disseminate career information to junior and senior high schools, vocational-technical colleges, and institutes in New Hampshire; 2) to encourage implementation of in-service education projects for school counselors and other appropriate personnel workers, and to conduct follow-up studies on these projects; 3) to encourage initiation and development of community occupational surveys; 4) to encourage and initiate activities designed to establish closer working relationships between community industries and community schools; and 5) to assist school counselors in motivating student interest in career exploration at an early age. A professional guidance and personnel services worker was to be employed as project director. With sufficient secretarial assistance, he would be expected to establish a plan of sequential action for meeting the objectives of the project. The project director would cooperate with the State Department of Education officials, Superintendents of Schools, other administrators and school counselors. Also, he would endeavor to make maximum contact with appropriate state associations. (New Hampshire)

Senior High School Programs

The following exemplary programs are proposed for use in the high school setting:

Occupational Information and Guidance Service Center

The purpose of this project was to establish an Occupational Information and Guidance Service Center that would function on a statewide basis. The primary activity of the Center would be to bring job and training opportunities to the attention of school-age youths. The objective of this program was to effect a closer and immediate relationship among schools, industry and government. (Hawaii)

Computer-Based Guidance and Career Exploration System

This project proposed to overcome many of the problems which hamper the guidance process through pursuit of objectives aimed at : 1) increasing the overall effectiveness of the guidance process, 2) making guidance and counseling more relevant for disadvantaged youth, and 3) using computer technology combined with human understanding to help students bridge the gap between high school and the world of work. (Michigan)

Project Trailride: A Self-Contained Mobile Unit for Vocational and Occupational Counseling

Project Trailride provided a mobile vocational and occupational counseling unit which tested the feasibility of using such mobile units to supplement existing guidance programs as well as the initiation of new services. The project utilized a self-contained mobile unit to disseminate information and provided counseling about present and developing occupational possibilities. (Nebraska)

Development of Super 8 mm. Film-Loops and Cartridged Cassette Tapes To Intensify the Guidance and Counseling Efforts in the Dissemination of Occupational Information to High School Juniors and Seniors

The project involved the development and utilization of 8 mm. film loops and cassette tapes in disseminating occupational information to high school juniors and seniors. An effort was made to evaluate the acceptability, feasibility, and effectiveness of these audiovisual techniques in intensifying the occupational guidance and counseling efforts in behalf of the participating students. (Nebraska)

Model Career Resource Centers in Schools for the Systematic, Purposeful Use of Career Information Supported by a State Information Preparation Agency

This project initiated state level sponsorship of activities aimed at the improvement, extension, and expansion of information services in vocational guidance and counseling at the secondary school level. Innovative concepts were: 1) establishment of a system for the collection, synthesis, preparation, and distribution of career information reflecting state and local occupational and education conditions; 2) creation of an in-school setting for dissemination of career information to students via the best materials, resources (human and nonhuman), and techniques currently available; 3) preparation and utilization of career resource specialists to serve student population and counseling staff in collection, evaluation, and dissemination of career information; and 4) the development of orientation and placement activities to introduce students to actual work experiences through simulated activities, part- and full-time job placement, and work-study programs. (Pennsylvania)

Comprehensive (K-12) Programs

The following exemplary programs involve the entire educational continuum from kindergarten through grade 12.

Comprehensive Occupational Education Program for the Elementary and Secondary School

This project incorporated activities in the elementary school that were orientational, informational, and explorational in nature. More sophisticated activities of an informing, counseling, exploring, and preparing nature were used in the junior high school. Specific activities centered around: occupational guidance and testing; integrated occupational information classes; simulated work experience; on-campus work experience, community work experience, cluster programs; and short-term training experiences. The senior high school evolved around a theme of more specific occupational guidance and counseling and occupational preparation. Activities included cluster programs, day trade, cooperative training, and short-term preparatory experiences. (Alabama)

An Occupational-Vocational Education Model for the State of Delaware

The goal of the proposed project was the establishment of an occupational-vocational model through the cooperative effort of one county vocational-technical school and one local school district. This project allowed for the cooperative development of a realistic exemplary program designed to serve as a model for the future development of occupational-vocational programs in the State of Delaware. (Delaware)

A Developmental Program of Occupational Education

The overall objective of this project was to develop and implement a developmental program of occupational education in a cluster of schools within the Cobb County School System. The approach would fuse the more promising program and practices of vocational education with the broader curriculum and with the guidance program of the school system within the elementary, middle, and secondary schools. This would enable the system to achieve its educational objective for all students by developing work skills that are suited to an area of rapid growth in populations, industry, and technology. The project placed special emphasis on those who were culturally, economically, or otherwise handicapped or disadvantaged. (Georgia)

Kansas Rural-Urban-Suburban Exemplary Program

This project was an exemplary program in occupational and career orientation coupled with vocational exploratory experiences and vocational classes. It included grades K through 12 in three Kansas communities representing rural, urban, and suburban schools. The project involved the development of an educational program with occupational information integrated into the elementary curriculum, exploration activities at the middle school level, and occupational training at upper school levels. (Kansas)

Exemplary Programs in Vocational Education Under Part D of the Vocational Education Act of 1968

The Henderson County project, "Vocational Education Curriculum Integration Project," was a model emphasizing the importance of a continuum of prevocational experiences to job entry. The need for this project arose from the shifting of rural population toward urbanization. Concepts of the world of work were integrated into the school curriculum at the elementary level and continued through the 12th grade and job entry. The project emphasized a continuum of a prevocational overview of the world of work in the elementary school for the disadvantaged in an urban area. In the middle school years, provisions were made for a more intensive occupationally oriented curriculum using occupational information. Four occupational information teachers implemented the program through part-time student employment. At the secondary level, a special teacher acted as liaison between the student and the business community. (Kentucky)

New Opportunities for Work (Now)

The "New Opportunities for Work Program" was conducted as an integral part of a developing comprehensive regional vocational education program which encompassed 10 towns and cities in central Maine. It concentrated on a career development approach for all students, including the disadvantaged, beginning in the elementary grades and extending through high school, terminating with job placement and follow-up capabilities. Cooperative work experience and short-term intensive skill training complemented and enriched the approach. Project objectives were achieved through close working relations of guidance persons with keen knowledge of career development and the world of work, a cooperative education coordinator, and an Employment Security Officer, all under the leadership of a dynamic project coordinator and advisory committee. Program activities were headquartered within the Lewiston School District but served all public and nonprofit private school population of the entire regional vocational district. As a model, it was to be evaluated, demonstrated, and disseminated for implementation throughout the State of Maine. (Maine)

The Student Preparation for Vocational Training and Employment

The basic purposes of this project were to inform students, teachers, counselors, and parents about vocational training and employment opportunities and to involve students, teachers, counselors, parents, and industry representatives in the investigation of and planning for prevocational training, as part of the schools' curriculum. The principal exemplary feature of this project was to show how school staff, parents, industry and others could work effectively with students (grades K-12), to inform them of employment opportunities, and help prepare them through adequate training for entrance into the labor market. (Michigan)

Exemplary Program at Moberly

This project was entitled, "A Career Development Program for Students in Kindergarten Through Grade 12." The total project covered a variety of activities at various grade levels and specifically had the following objectives: 1) to develop and maintain respect for self, for others and for the world of work; 2) to expose each student to a variety of occupations during elementary school years; and 3) to develop the ability to make wise occupational decisions. The project was designed to give elementary students the proper background for the vocational program that the district provided for career development at the secondary and junior college level. (Missouri)

Exemplary Programs—General

The purpose of this project was to provide prevocational programs for grades 7, 8, and 9; to introduce and explore occupations and job clusters; and make available prevocational programs to surrounding small schools where no opportunity for training existed. Flexibility was planned so students could move from one area to another, or take courses in more than one vocational area simultaneously. Some high school program offerings were nongraded, having mixed levels, with each level offering something to other students in terms of knowledge, behavior, attitudes, and maturity. The programs provided for the needs of disadvantaged and handicapped students within existing programs. (Montana)

The Washoe County School District Approach to Sequential Education

This project was intended to introduce new elements of vocational education at the elementary, junior high, senior high, and post-secondary school levels, combining them with existing elements to form a smooth, sequential program in vocational education for our Washoe County youth from the fifth grade to the post-secondary level. (Nevada)

Career Development: A Preschool Through Adult Model Program for the Hackensack, New Jersey School District

This project proposed that relevant education could be put into practice which provides a sequential and planned framework for career development experiences. This would enable the citizenry of New Jersey to make satisfying career decisions and no longer allow a haphazard approach to the transition from school to work. Insufficient progress has been made relative to the identification of sequential techniques and procedures that might be adopted along a preschool to adult continuum for providing educational experiences designed to enhance individual career development. (New Jersey)

Developing an Appreciation of the World of Work: A Workshop for Guidance Personnel and Counselors

The purpose of the workshop was to provide an opportunity for selected teachers, guidance personnel, and full-time counselors to learn about the world of work through a program of information, field trips, and limited work experiences in selected industries. It was designed to develop a close contact with those in business and industry who were responsible for selecting and retaining employees and to view at close hand a broad series of occupations. It was expected that this program of experiences would lend reality to the knowledge of occupations the counselor or teacher possessed, and would serve as a springboard for a continuing better understanding of the world of work as it affected youth who were developing career choices. (North Carolina)

A Statewide Program in Developmental Vocational Guidance (K-12) and Occupational Preparation for the Changing World of Work

The project was concerned with four areas—intensive vocational guidance, intensive vocational training, prevocational training, and orientation to the world of work (K-12). Primary objectives of the project were: 1) to provide for broad occupational orientation at the elementary and secondary levels so as to increase student awareness of the range of options open to them in the world of work, 2) to provide for cooperative education in a variety of occupational areas, 3) to provide for specific training in job entry skills for students who have not had access to vocational education, and 4) to provide intensive occupational guidance and counseling during the last year of school and assist in initial placement of all students in post-secondary training or in a job. (North Dakota)

System of Vocational Guidance and Vocational Education

The Vocational Education Amendments of 1968 directed a thrust for the development of a prevocational type of program within the state of Ohio. A Governor's Task Force also outlined a total work-oriented program in grades K-12. These goals were as follows:

K-6	1. Encourage all youth to respect work.
	2. Encourage all youth to want to do some part of the World of Work.
7-8	1. Career orientation for all youth.
9-10	1. Career exploration.
	2. Occupational work adjustment for dropout prone youth.
11-12 (or age 16 and up)	1. A broad goal-centered educational program.

This goal pattern was accepted by the Division of Vocational Education and by the Fall of 1970, demonstration programs were in operation in 15 schools in selected communities throughout Ohio. In most cases these were organized into a system so that all phases of it would build one on the other. (Ohio)

Disadvantaged Student Programs

Several exemplary programs have been developed to encourage desirable student attitudes toward the world of work and to enrich the background of the disadvantaged.

Northern Arizona Hospitality Education Exemplary Project

The overall objective of this three-year project was to provide youth, mainly Indian, in nine high schools in Apache, Coconino, and Navajo Counties with the opportunity for acquiring job skills and attitudes necessary for successful employment in the hospitality industry. (Arizona)

The Development of Socially Desirable Attitudes and Knowledge of Occupational Opportunities for the Rural Youth of Western Colorado

The purpose of this project was the development of curriculum, materials, activities, and educational techniques which provided a vocational educational program with emphasis directed toward teaching desirable attitudes toward work relevant to current employment trends in: 1) rural areas of the Western Slope of Colorado; and 2) in the urban and city areas, at the fifth and sixth grade levels in the Paonia Schools for the academic year 1969-70 and continuing through the school year 1970-71. (Colorado)

Summary and Conclusions

The "Exemplary Programs and Projects" section of the Vocational Education Act Amendments of 1968 has enabled many state departments of vocational education to develop experimental and pilot programs of occupational exploration. At the time of this writing, some of the programs were operational, while others were still in the proposal stage. These programs had widely varying approaches, however, they can be generally classified as elementary, junior high school, junior and senior high school, senior high school, or comprehensive in scope. Several programs were developed exclusively for the culturally disadvantaged.

INDUSTRIAL ARTS AND OCCUPATIONAL EXPLORATION

The recent impetus on occupational exploration has heightened interest in industrial arts and its role in providing career exploratory experiences. In the article "Roundtable: Who Teaches What? What Effect on Industrial Arts?" in the October 1969 issue of *Industrial Arts and Vocational Education,* six representatives of the industrial education community agreed that occupational education certainly could give industrial arts a more meaningful objective. There was also speculation that this situation might enhance the relationship between industrial arts and vocational education.

DeVore (1970) argued for a firm knowledge base in general education to draw from in making vocational decisions, and liberal use of exploratory programs such as industrial arts to widen the students' occupational scope.

Venn (1969) made several observations concerning the role of industrial arts in providing occupational exploration of the type alluded to in the Vocational Education Act Amendments of 1968. He stated that from the point of view of vocational educators, industrial arts should provide the broad panorama of occupations and the exploratory experiences which enable the student to make a wise career choice. Industrial arts programs are prevocational in that they teach some of the basic skills needed in vocational programs and orientational in that they present a general survey of the world of work. The most valuable industrial arts program from a vocational standpoint is one which introduces the student to as many different occupations as possible, permitting practical experience in each, and making clear the requirements for each job, the benefits of each job, the prevalence of the job, and how to go about preparing for it.

Reactions by industrial arts educators to Venn's statements demonstrated their fear of being swallowed up by vocational education through federally funded vocational programs which are replacing industrial arts. These educators felt that orientation to the world of work is only one of the objectives of industrial arts and the program must continue to satisfy the general education aspects. There was agreement that industrial arts rapidly is approaching a point where a decision will have to be made between general education and vocational education.

The Arizona State Department of Vocational Education (1969) identified industrial arts as a discipline which could do much in providing occupational exploration. All education must be involved from early elementary into secondary education; English, social studies, science, mathematics, art, music, industrial arts, home economics, and business education all deal with basic skills, knowledges, and appreciations related to a multiplicity of careers. If students are to find relevance in what they learn, they must be shown constantly how it is used in the world of work.

Bottoms and Matheny (1969) emphasized that the use of industrial arts in career development should be maximized in the middle high school and grades 9, 10, and 11. The industrial arts curriculum could provide a base of experience through which students would be able to gain greater self-understanding in relation to manufacturing occupations provided they are given an opportunity for appropriate reflection. The industrial arts curriculum is diversified and offers a variety of experiences in an organized laboratory. Students are provided with basic exploratory experiences using many of the tools, materials, processes, and products of major industries. To maximize the use of such experiences, time must be provided for the student to examine the experience in terms of the several dimensions of career development. This might be accomplished through a team approach involving the counselor and industrial arts teacher.

Pucel and Klaurens (1968) suggested several techniques which might be used by industrial arts instructors of traditional programs to provide learning experiences for students which are relevant to the work roles students will assume in adult life. They were:

1. When a student learns an operation he is given the opportunity to instruct other students and thereby test and improve his ability to give instructions.
2. When learning new operations, students are shown how these operations contribute to the well-being of society.
3. When a student shows interest or skill in a particular operation performed in class, he is encouraged to become familiar with the occupations in which the operation is performed.
4. Industrial arts classes are organized as work groups with students rotating in the role of foreman.
5. Students in industrial arts classes are encouraged to explore surrounding industries.

Innovative Programs

Industrial arts has responded to the need for programs of an exploratory nature through innovative programs which have been appearing since 1960. Brown (1969) and Minelli (1970) summarized nearly 60 innovative programs in industrial arts resulting from studies and reports by The Committee on Innovative Programs in Industrial Arts, which was appointed in 1967 in the Industrial Arts Division of the American Vocational Association. These programs were classified as elementary and secondary education, special education, and college and in-service education.

Cochran (1969) identified and defined four main categories under which most of the innovative industrial arts programs can be classified: 1) integrative programs, 2) interpretation of industry programs, 3) occupational family programs, and 4) technology-oriented programs. The programs are categorized by their major thrust or point of emphasis; therefore, some overlapping forces may occur between approaches. These innovative programs vary in the breadth of the world of work that they consider; however, all are career exploratory in nature.

Several innovative industrial arts programs will be reviewed, not to demonstrate that they are an answer in themselves, but to serve as career exploratory patterns or frameworks that vocational service areas may want to modify and adopt. Industrial arts relates to the industrial cluster of occupations and does not encompass such areas as human services, business, agriculture, etc. Therefore, these program descriptions should be viewed as examples of orientation and exploratory activities occurring in the industrial occupation cluster and not as awareness or exploratory techniques for all career areas.

Integrative Programs.—Integrative programs are based upon the premise of making education a unifying experience: eliminating unnecessary duplication, drawing on natural relationships, and correlating subject matter.

The "Correlated Curriculum Project" was an interdisciplinary approach to industrial arts devised by New York City educators in 1966 and sponsored by the Ford Foundation. It was designed to assist students whose previous records indicated that they would not succeed in the regular high school program. Primary project emphasis was on laboratory-centered career experiences mixed with interrelated activities in mathematics, science, and English. Special attention was given to: 1) exploratory experiences in business, health, and industry; 2) student adjustment to school and work; 3) development of marketable skills in one broad area; and 4) job-placement assistance. In the exploratory stage, during grades 9 and 10, the student takes one broad occupational area (Cochran, 1969 and Minelli, 1970).

In 1965, "Interdisciplinary Vocational Education," a Kansas State University supported program, was funded by the U.S. Office of Education. The purpose of the project was to develop a new vocational-education program that would eliminate duplication of content in the various programs and would focus on those elements common to all vocational fields. Teachers in the fields of agriculture, business, health, home economics, industrial arts, and guidance presented a correlated program that provided occupational information, guidance activities, and experiences that lead to preparation in a specific vocational field. In the 11th grade a course entitled "Commonalities in Occupations" was scheduled concurrently with the student's regular program. The student also went through four exploratory observations in areas of special interest for a total of 40 days. At the end of the 11th grade, the student selected an occupation in which he would like to enroll as an occupational experience participant. A minimum of 15 hours a week of work experience was scheduled during the 12th grade (Cochran, 1969).

Two additional integrative industrial arts programs which may be of interest to researchers and program planners are "The Partnership Vocational Education Project" developed in 1965 by Central Michigan University in conjunction with the Ford Foundation (Minelli, 1970) and the "Richmond Plan" developed in 1962 with the assistance of the Ford Foundation (Cochran, 1969).

Interpretation of Industry Programs.—Interpretation of industry programs create a total understanding of industry, including such factors as maketing, production, materials, research and design, servicing, and the organizational pattern of industry.

The "Georgia Plan" was sponsored by Georgia Southern College and the Georgia State Department of Education. It provided opportunities for students to: 1) develop insights and understandings of industry and technology; 2) develop an understanding of requirements, opportunities, and working conditions; and 3) develop an ability to use tools, materials, and processes to solve technical problems. Instruction and experiences were provided from kindergarten through grade 12 in the industrial aspects of society. Elementary education pupils gain knowledge of industry through units of study dealing with transportation, communication, shelter, clothing, food, and utensils. Beginning with the seventh grade, a multiple level program developed. Approximately five to 10 percent of the students are directed to terminal-type special education activities which meet their needs. All the other students are directed into general industrial arts courses in communication, manufacturing, and transportation-power. Work-preparatory and college-preparatory programs begin at the 10th grade level. (Cochran, 1969; Minelli, 1970; and Paulter, 1970).

Two other innovative programs which fall in the Interpretation of Industry category are the "American Industry Project" at Stout State University (Minelli, 1970) and the "Industriology Project" at Wisconsin State University, Plattsville (Kirby, 1968; Cochran, 1969; and Minelli, 1970).

Occupational-Family Programs.—Occupational-family or cluster programs provide experiences in broad occupational areas and stress basic factors that are common throughout a particular cluster.

The Detroit Public School System developed the "Galaxy Plan for Career Preparation" for use in grades 7 through 12. The plan purports to bring the activities of business, distributive, agricultural, home economics, industrial arts, industrial, and technical education closer together so that students may explore manipulatively more of the careers in the world of work. Occupational groups were classified into four major clusters: 1) materials and processes, 2) visual communications, 3) energy and propulsion, and 4) personal services. A three-phase articulated program was implemented in grades 7 through 12. Phase I provided exploratory experiences, Phase II, skills and work tolerance development, and Phase III allowed for area specialization in grades 11 and 12. There seemed to be much tangible and intangible resistance to the program from other disciplines, state level educational agencies, and school housing authorities (Cochran, 1969).

The Pittsburgh Public School implemented the "Occupational, Vocational, and Technical Program" in 1965. The basis for the OVT Program was a breakdown of occupational areas giving consideration to a comprehensive articulation of both general and vocational education. Experiences were provided relating to the world of work from grades 6 through grade 14. Provisions were made for a broad exposure to occupational areas in grades 6, 7, and 8, while increased specialization was fostered from 9 through 14. At the seventh and eighth grade levels, experiences were related to an overview of 10 occupational areas. More narrow concentration was made at the ninth and 10th grades as students focused on one or two industrial classifications. The 11th and 12th grades were work experience programs in preparation for initial employment or continued education. Several of the programs had been extended through grades 13 and 14 (Cochran, 1969).

The "Training for Families of Skills" program was a segment of Project ABLE, a U.S. Office of Education funded curriculum study project in Quincy, Massachusetts. This study implemented a new vocational program geared to the individual needs of the students, providing an individualized learning atmosphere and culminating in the development of a specific salable skill. The project was concerned with occupational experiences for grades 9 through 14; however, it built on a strong occupational orientation in the junior high school. At the high school level, the plan was implemented through a curriculum built around 11 broad occupational families. More than 250 specific occupational skills were included in these areas. Specific job titles and basic tasks were listed under each of these headings. Instructional units were prepared for each of these tasks for the student's use, stating objectives, necessary equipment, procedural illustrations, instructor check points, and student evaluation items (Cochran, 1969).

Another program which may be of interest is the "Crafts as a Vocation" project sponsored by Eastern Kentucky University and funded by the Elementary and Secondary Education Act of 1965 (Cochran, 1969).

Technology-Oriented Programs. — Technology-oriented programs stress the importance of technology to man and particularly emphasize scientific management, product demands, and the role of the individual in society.

The "Industrial Arts Curriculum Project" (IACP) at The Ohio State University was started in 1965 under U.S. Office of Education funding. A two-year sequence in industrial technology was developed to provide junior high school students with learning experiences concerning modern industrial technology. The first year's course, "The World of Construction," studies man's construction production system and its major projects.

The second year's course, "The World of Manufacturing," studies man's manufacturing system and its major manufactured products. Innovators of this project believe that it is through these two broad fields that man reshapes his material world. Students learn how man plans, organizes, and controls men, materials and processes in order to produce such items as buildings, bridges, roads, clothing, and utilities. Students use tools and materials to produce products that are representative of man's products produced in a factory or on a construction site. This program was designed to fit into typical, existing industrial arts facilities (Minelli, 1970).

The "Maryland Plan" developed at the University of Maryland has been in successful operation since about 1960. The program was designed to provide seventh, eighth, and ninth grade students with industrial arts experiences that have relevance to the needs of man in a contemporary society. Instructional emphasis was changed from teaching about things and projects to developing people. A program structure was developed which encouraged students to carry out research and development aspects and learn about instructional content as they solve problems or work toward an understanding of a major area of industry. Students played the roles of research workers and applied the principles of mathematics; science, and mechanics in testing, analysis, and experimentation involving tools, materials, processes, and products (Minelli, 1970 and Pautler, 1970).

Other Technology-Oriented innovative industrial arts programs which are somewhat exploratory in nature are the "Alberta Plan" at the University of Alberta (Cochran, 1969) and "Industrial Arts Technology: A Study of American Industry" designed by Gorham State College of the University of Maine (Cochran, 1969 and Minelli, 1970).

Summary and Conclusions

Industrial arts has developed numerous innovative programs in the past 10 years, many of which have as a purpose, exploration of the industrial job family. These programs are designed for all levels of education, from the elementary grades to the university.

Innovative industrial arts programs commonly are classified as integrative, interpretive, occupational-family, or technology-oriented. The occupational-family category is geared most specifically to exploration of the world of work; however, all groupings include exploration as one of their major program objectives.

The innovative industrial arts programs may provide a portion of the exploratory experiences necessary at the junior and senior high school levels; however, they are only concerned with the industrial occupational segment. There is much that might be done of an exploratory nature by agriculture, business education, distributive education, and home economics.

EVALUATION OF OCCUPATIONAL EXPLORATION PROGRAMS

Evaluative procedures and techniques were not widely established for occupational exploration programs. Many of the programs which were operational or being developed had evaluative measures built into them but were not discussed at length in the literature. A few isolated examples of occupational exploration evaluation programs did occur in the literature which might serve as models for future evaluation programs.

Early evaluation reports of vocational education generally recommended occupational orientation and exploration as desirable aspects of a comprehensive program as does the Byerly *et al.* (1962) report on vocational education in the Detroit Public School System.

Clary (1967) evaluated the North Carolina "Introduction to Vocations" program which provided ninth grade students with occupational information as a basis for vocational planning. Three hundred and sixty-six teachers and administrators were surveyed by questionnaires. Eighty percent responded to questions concerning: 1) need for the course, 2) appropriateness of the objectives and the extent to which they were met, 3) relationship to other courses, 4) appropriateness of content and grade level, 5) required teacher qualifications, 6) most effective teaching methods, and 7) suggestions and barriers to improvement. The major conclusions of the study were as follows:

1. Such a course is needed.
2. The objectives were satisfactorily attained in most schools.
3. The students' decisions should determine later course offerings.
4. Successful completion of the course should result in fewer dropouts.
5. Both boys and girls should take the course.
6. More study was needed to learn if the course should be required or elective.
7. Resource persons and field trips should be used extensively.
8. There should be adequate teaching materials, supplies, and equipment.
9. More attention should be given to teacher preparation.
10. More adequate budgets should be provided.

Rohde and Hall (1968) evaluated an experimental vocational guidance course in two Fillmore, Utah high schools. The objective of the course was to help rural students develop in personal and social areas which research and experience had delineated as limiting factors in decision-making and adjustment to the world of work. Evaluative techniques and procedures were discussed.

Jackson *et al.* (1969) evaluated the program of vocational development for junior high school students which were conducted at Sayre Junior High School, Philadelphia, Pennsylvania. To determine the program's success, three instruments were administered: 1) a career plan survey showing students' present career plans and knowledge about the career, 2) a career information survey indicating students' information about careers in the six major career areas covered by the program, and 3) a semantic differential to determine the program's effect on student attitudes toward certain careers.

SUMMARY AND CONCLUSIONS

Research relating to occupational exploration programs was limited, presumably due to the recent emphasis on their development. However, considerable related information existed from the vocational guidance and career development fields. Many states were revising their vocational education philosophy to include K–12 occupational exploration, which seemed to establish a trend. Numerous experimental programs were either proposed or in actual operation, and the expected descriptions and evaluations of these programs should greatly expand the document base for occupational exploration.

Conclusions

The following conclusions were drawn from a review of the literature:

1. Little research is available on specific occupational exploration programs; however, considerable material was found in the area of vocational development which indirectly applies to world-of-work activities.
2. Occupational exploration programs for the junior high school educational level are the most numerous and highly developed, probably due to the belief that programs at this level are the most productive in relation to the resources available for developmental purposes.
3. Junior high school occupational exploration programs are either composed of separate occupational information courses or are interdisciplinary in nature. The newer programs seem to favor the interdisciplinary approach to providing occupational exploration.
4. Currently, the greatest emphasis in occupational exploration appears to be on the development of world-of-work programs and activities at the elementary school level.
5. Existing elementary occupational exploration programs tend to be highly guidance-directed and interdisciplinary in structure.
6. There is a critical shortage of professional educational staff who understand the career development process and have the necessary expertise to direct occupational exploration program activities.
7. The majority of the programs reviewed were based upon the developmental or self-concept theory of vocational development.
8. There is a definite trend toward comprehensive vocational education programs or master plans for education. These programs include association with the world of work in the elementary school, orientation to the world of work in the middle school, exploration of the world of work in grades 9 and 10, and in-

depth exploration of job clusters and skill development in the 11th and 12th grades.

9. Numerous occupational exploration projects are being developed for all educational levels as a result of the Exemplary Programs and Projects section of the 1968 Vocational Education Amendments.
10. Many of the occupational exploration programs are operating on or subsidized by "seed money" from the 1968 Vocational Education Amendments, The Elementary and Secondary Education Act, or private foundations. Unless educators realize the full value of such programs and can muster total school and community support, there is grave danger of local nonsupport when pioneering moneys are withdrawn.
11. Vocational guidance has some highly sophisticated techniques for providing occupational information in the high school, many of which are based upon the capabilities of the computer.
12. The field of industrial arts has developed several innovative programs providing occupational exploratory experiences at the junior high school and senior high school levels which may serve as a format or guidelines for program development in other vocational services.

Recommendations

The following recommendations grew out of this review:

1. Career development programs should be an integral part of the entire educational continuum and school environment.
2. School experiences may be made more meaningful to the student through association with the world of work.
3. Greater use should be made of simulated and direct work experiences in the junior high school and senior high school programs.
4. Occupational exploration should be a systematic career development process, with experiences sequentially organized.
5. The occupational exploration program should be sufficiently flexible to provide for the needs of all students.
6. A closer working relationship or linkage will need to be established between the school system and business and industry.
7. Teacher education should become sensitized to the occupational exploration and career development aspects of education and modify their programs to provide specific teacher preparation in this area.
8. The professional preparation of counselors needs to be revised to focus more sharply on the vocational aspects of guidance possibly through the use of limited job experience in counselor preparation programs.

Problems

The growth and development of occupational exploration programs have posed several problems which will need to be resolved before successful program implementation can be achieved:

1. Some states and districts have mandated the incorporation of occupational exploration programs in the schools without establishing definitive program objectives and without having available adequate strategies and expertise for implementation.
2. All the teachers in the school as well as the community populace must be convinced and sold on the importance of occupational exploration in the total school program.
3. The relationship between vocational educators, general educators, and guidance personnel must be formed into a smooth working arrangement if these programs are to succeed. This implies the resolution of many biases, apprehensions, and jealousies which now typically exist.

Questions To Be Resolved

A survey of the literature and serious examination of existing occupational exploration programs suggest some unresolved questions:

1. What responsibility does vocational education have for elementary and junior high school occupational exploration programs?
2. Should vocational educators, general educators, guidance personnel, or specialists in career development assume the responsibility for administering occupational exploration programs?
3. How will occupational exploration programs be supported after federal and private foundations cease providing developmental funds?
4. Should occupational exploration programs be primarily for the disadvantaged and handicapped or should all students be equally involved?
5. What is the primary objective of elementary world-of-work programs? Is it to acquaint students with the work world or a means by which subject material can be made more realistic?
6. Does the "cluster concept" in the high school adequately prepare students for entry into the work force?

Recommendations for Further Research and Study

The paucity of research in occupational exploration leaves a wide array of areas needing additional research and study. However, based upon this review, the writer felt that the following priority areas do exist:

1. The objectives of elementary world-of-work programs need to be fully identified and clearly defined.

2. Curriculum development is needed at all educational levels, with probably the greatest emphasis on elementary programs.
3. Continued effort is needed in developing strategies for implementing and administering career development programs.
4. Guidelines and training packages need to be developed for in-service teacher education programs.
5. Strategies and guidelines need to be developed for acquiring active community involvement in occupational exploration programs.
6. There needs to be further development of evaluation techniques and procedures for occupational exploration programs.

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